

SEQUENCE LISTING

<110> Choi

<120> Staphylococcus aureus Polynucleotides and Polypeptides

<130> PB560

<150> PCT/US00/23773

<151> 2000-08-31

<150> US 60/151,933

<151> 1999-09-01

<150> US 08/781,986

<151> 1997-01-03

<150> US 08/956,171

<151> 1997-10-20

<150> US 60/009,861

<151> 1996-01-06

<160> 74

<170> PatentIn Ver. 2.0

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09925637.081001

09055637.081001

<400> 2

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35 40 45

Lys Ile Leu Pro Phe Asp Ala Asn Asn Ile Lys Glu Asp Met Val Val
50 55 60

Ile Gln Gly Asn Ala Phe Ala Ser Ser His Glu Glu Ile Val Arg Ala
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His Gln Leu Lys Leu Asp Val Val Ser Tyr Asn Asp Phe Leu Gly Gln
85 90 95

Ile Ile Asp Gln Tyr Thr Ser Val Ala Val Thr Gly Ala His Gly Lys
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Thr Ser Thr Thr Gly Leu Leu Ser His Val Met Asn Gly Asp Lys Lys
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Thr Ser Phe Leu Ile Gly Asp Gly Thr Gly Met Gly Leu Pro Glu Ser
130 135 140

Asp Tyr Phe Ala Phe Glu Ala Cys Glu Tyr Arg Arg His Phe Leu Ser
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Tyr Lys Pro Asp Tyr Ala Ile Met Thr Asn Ile Asp Phe Asp His Pro
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Asp Tyr Phe Lys Asp Ile Asn Asp Val Phe Asp Ala Phe Gln Glu Met
180 185 190

Ala His Asn Val Lys Lys Gly Ile Ile Ala Trp Gly Asp Asp Glu His
195 200 205

Leu Arg Lys Ile Glu Ala Asp Val Pro Ile Tyr Tyr Tyr Gly Phe Lys
210 215 220

Asp Ser Asp Asp Ile Tyr Ala Gln Asn Ile Gln Ile Thr Asp Lys Gly
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Thr Ala Phe Asp Val Tyr Val Asp Gly Glu Phe Tyr Asp His Phe Leu
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Ser Pro Gln Tyr Gly Asp His Thr Val Leu Asn Ala Leu Ala Val Ile
260 265 270

Ala Ile Ser Tyr Leu Glu Lys Leu Asp Val Thr Asn Ile Lys Glu Ala
275 280 285

Leu Glu Thr Phe Gly Gly Val Lys Arg Arg Phe Asn Glu Thr Thr Ile
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 325 330 335
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 340 345 350
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 355 360 365
 Glu Ile Phe Gly Ser Ile Arg Glu Asn Thr Gly Ala Leu Thr Ile Gln
 370 375 380
 Asp Leu Ile Asp Lys Ile Glu Gly Ala Ser Leu Ile Asn Glu Asp Ser
 385 390 395 400
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09925637-081001

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Tyr	Arg	Asn	Tyr	Lys	Ala	Lys	Lys	Glu	Glu	Leu	Ala	Asp	Ile	Glu	Glu	50	55	60
Met	Leu	Ser	Glu	Thr	Asp	Asp	Lys	Glu	Glu	Val	Glu	Met	Leu	Lys	Glu	65	70	75
Glu	Ser	Asn	Gly	Ile	Lys	Ala	Glu	Leu	Pro	Asn	Leu	Glu	Glu	Glu	Leu	85	90	95
Lys	Ile	Leu	Leu	Ile	Pro	Lys	Asp	Pro	Asn	Asp	Asp	Lys	Asp	Val	Ile	100	105	110
Val	Glu	Ile	Arg	Ala	Ala	Ala	Gly	Gly	Asp	Glu	Ala	Ala	Ile	Phe	Ala	115	120	125
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Lys	Thr	Glu	Ile	Val	Glu	Ala	Ser	Glu	Ser	Asp	His	Gly	Gly	Tyr	Lys	145	150	155
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Gly	Gly	Arg	Ile	His	Thr	Ser	Thr	Ala	Thr	Val	Ala	Val	Leu	Pro	Glu	195	200	205
Val	Glu	Asp	Val	Glu	Ile	Glu	Ile	Arg	Asn	Glu	Asp	Leu	Lys	Ile	Asp	210	215	220
Thr	Tyr	Arg	Ser	Ser	Gly	Ala	Gly	Gly	Gln	His	Val	Asn	Thr	Thr	Asp	225	230	235
Ser	Ala	Val	Arg	Ile	Thr	His	Leu	Pro	Thr	Gly	Val	Ile	Ala	Thr	Ser	245	250	255
Ser	Glu	Lys	Ser	Gln	Ile	Gln	Asn	Arg	Glu	Lys	Ala	Met	Lys	Val	Leu	260	265	270
Lys	Ala	Arg	Leu	Tyr	Asp	Met	Lys	Val	Gln	Glu	Glu	Gln	Gln	Lys	Tyr	275	280	285
Ala	Ser	Gln	Arg	Lys	Ser	Ala	Val	Gly	Thr	Gly	Asp	Arg	Ser	Glu	Arg	290	295	300
Ile	Arg	Thr	Tyr	Asn	Tyr	Pro	Gln	Ser	Arg	Val	Thr	Asp	His	Arg	Ile	305	310	315
Gly	Leu	Thr	Leu	Gln	Lys	Leu	Gly	Gln	Ile	Met	Glu	Gly	His	Leu	Glu	325	330	335

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 35 40 45
 Thr Pro Val Gln Gln Leu Ala Ser Ile Asn Val Pro Glu Ala Arg Leu
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 Leu Val Ile Ser Pro Tyr Asp Lys Thr Ser Val Ala Asp Ile Glu Lys
 65 70 75 80
 Ala Ile Ile Ala Ala Asn Leu Gly Val Asn Pro Thr Ser Asp Gly Glu
 85 90 95
 Val Ile Arg Ile Ala Val Pro Ala Leu Thr Glu Glu Arg Arg Lys Glu
 100 105 110
 Arg Val Lys Asp Val Lys Lys Ile Gly Glu Glu Ala Lys Val Ser Val
 115 120 125
 Arg Asn Ile Arg Arg Asp Met Asn Asp Gln Leu Lys Lys Asp Glu Lys
 130 135 140
 Asn Gly Asp Ile Thr Glu Asp Glu Leu Arg Ser Gly Thr Glu Asp Val
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Asp Lys Glu Lys Asp Ile Met Ser Val
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 35 40 45
 Val Glu Leu Asn Met Asp Gln Gly Thr Phe Lys Val Ile Ala Arg Lys
 50 55 60
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 Glu Asp Val Thr Pro Lys Asp Phe Gly Arg Val Gly Ala Gln Ala Ala

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Gly	Pro	Gln	Ile	Tyr	Val	Ser	Arg	Ser	His	Pro	Gly	Leu	Leu	Lys	Arg		
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Asp	Ile	Val	Gln	Trp	Asn	Glu	Asp	Pro	Lys	Val	Phe	Val	Lys	Asn	Ala		
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Leu	Ser	Pro	Ser	Gln	Val	Leu	Glu	Val	Ile	Val	Asp	Glu	Thr	Asn	Gln		
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Ser	Thr	Val	Val	Val	Val	Pro	Asp	Tyr	Gln	Leu	Ser	Leu	Ala	Ile	Gly		
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Lys	Arg	Gly	Gln	Asn	Ala	Arg	Leu	Ala	Ala	Lys	Leu	Thr	Gly	Trp	Lys		
325					330					335							
Ile	Asp	Ile	Lys	Ser	Glu	Thr	Asp	Ala	Arg	Glu	Ala	Gly	Ile	Tyr	Pro		
340					345					350							
Val	Val	Glu	Ala	Glu	Lys	Val	Thr	Glu	Glu	Asp	Val	Ala	Leu	Glu	Asp		
355					360					365							
Ala	Asp	Thr	Thr	Glu	Ser	Thr	Glu	Glu	Val	Asn	Asp	Val	Ser	Val	Glu		
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Glu Ser Met Asn Met Thr Glu Gln Ile Phe Arg Val Val Ile Pro Glu
          35                      40                      45

Glu Glu Glu Thr Gln Val Lys Asp Gly Lys Ala Lys Thr Thr Val Lys
          50                      55                      60

Lys Thr Phe Pro Gly Tyr Val Leu Val Glu Leu Ile Met Thr Asp Glu
          65                      70                      75                      80

Ser Trp Tyr Val Val Arg Asn Thr Pro Gly Val Thr Gly Phe Val Gly
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Ser Ala Gly Ala Gly Ser Lys Pro Asn Pro Leu Leu Pro Glu Glu Val
          100                      105                      110

Arg Phe Ile Leu Lys Gln Met Gly Leu Lys Glu Lys Thr Ile Asp Val
          115                      120                      125

Glu Leu Glu Val Gly Glu Gln Val Arg Ile Lys Ser Gly Pro Phe Ala
          130                      135                      140

Asn Gln Val Gly Glu Val Gln Glu Ile Glu Thr Asp Lys Phe Lys Leu
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Thr Val Leu Val Asp Met Phe Gly Arg Glu Thr Pro Val Glu Val Glu
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Phe Asp Gln Ile Glu Lys Leu
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<210> 11

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<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Lys Arg Ile Asp Ser Ala Glu Glu Ile Met Glu Leu Lys Gln Phe Ile
              20              25              30

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Lys Asn Tyr Val Gln Ser His Ser Phe Ile Lys Ser Leu Val Leu Gly
              35              40              45

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Ile Ser Gly Gly Gln Asp Ser Thr Leu Val Gly Lys Leu Val Gln Met
              50              55              60

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Ser Val Asn Glu Leu Arg Glu Glu Gly Ile Asp Cys Thr Phe Ile Ala
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Val Lys Leu Pro Tyr Gly Val Gln Lys Asp Ala Asp Glu Val Glu Gln
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Ala Leu Arg Phe Ile Glu Pro Asp Glu Ile Val Thr Val Asn Ile Lys
              100              105              110

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Pro Ala Val Asp Gln Ser Val Gln Ser Leu Lys Glu Ala Gly Ile Val
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Leu Thr Asp Phe Gln Lys Gly Asn Glu Lys Ala Arg Glu Arg Met Lys
              130              135              140

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Val Gln Phe Ser Ile Ala Ser Asn Arg Gln Gly Ile Val Val Gly Thr
              145              150              155              160

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Asp His Ser Ala Glu Asn Ile Thr Gly Phe Tyr Thr Lys Tyr Gly Asp
              165              170              175

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Gly Ala Ala Asp Ile Ala Pro Ile Phe Gly Leu Asn Lys Arg Gln Gly
              180              185              190

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Arg Gln Leu Leu Ala Tyr Leu Gly Ala Pro Lys Glu Leu Tyr Glu Lys
195 200 205

Thr Pro Thr Ala Asp Leu Glu Asp Asp Lys Pro Gln Leu Pro Asp Glu
210 215 220

Asp Ala Leu Gly Val Thr Tyr Glu Ala Ile Asp Asn Tyr Leu Glu Gly
225 230 235 240

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245 250 255

Arg Asn Ala His Lys Arg Glu Leu Ala Tyr Thr Arg Tyr Thr Trp Pro
260 265 270

Lys Ser

<210> 13
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<212> DNA
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ggtccagatt tatctacaaa aatgtttgaa cacgctaaaa agtttggtgc agtttatcaa 240
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aaagaattaa cagcgaaagc gggtattatt gctacagggtg cagaatacaa gaaaattgggt 360
gttccgggtg aacaagaact tgggtggacgc ggtgtaagtt attgtgcagt atgtgatggt 420
gcattcttta aaaataaacg cctattcgtt atcgggtgggtg gtgattcagc agtagaagag 480
ggaacattct taactaaatt tgctgacaaa gtaacaatcg ttcaccgtcg tgatgagtta 540
cgtgcacagc gtattttaca agatagagca ttcaaaaatg ataaaatcga ctttatttgg 600
agtcatactt tgaaatcaat taatgaaaaa gacggcaaaag tgggttctgt gacattaacg 660
tctacaaaag atggttcaga agaaacacac gaggctgatg gtgtattcat ctatattggt 720
atgaaaccat taacagcgcc atttaaagac ttaggtatta caaatgatgt tggttatatt 780
gtaacaaaag atgatatgac aacatcagta ccaggatatt ttgcagcagg agatgttcgc 840
gacaaagggt tacgccaaat tgtcactgct actggcgatg gtagtattgc agcgcaaagt 900
gcagcggaat atattgaaca tttaaacgat caagct 936

<210> 14
<211> 312
<212> PRT
<213> Homo sapiens

<400> 14
Met Gly Thr Glu Ile Asp Phe Asp Ile Ala Ile Ile Gly Ala Gly Pro
1 5 10 15

Ala Gly Met Thr Ala Ala Val Tyr Ala Ser Arg Ala Asn Leu Lys Thr
20 25 30

Val Met Ile Glu Arg Gly Ile Pro Gly Gly Gln Met Ala Asn Thr Glu
35 40 45

Glu Val Glu Asn Phe Pro Gly Phe Glu Met Ile Thr Gly Pro Asp Leu
50 55 60

Ser Thr Lys Met Phe Glu His Ala Lys Lys Phe Gly Ala Val Tyr Gln
 65 70 75 80
 Tyr Gly Asp Ile Lys Ser Val Glu Asp Lys Gly Glu Tyr Lys Val Ile
 85 90 95
 Asn Phe Gly Asn Lys Glu Leu Thr Ala Lys Ala Val Ile Ile Ala Thr
 100 105 110
 Gly Ala Glu Tyr Lys Lys Ile Gly Val Pro Gly Glu Gln Glu Leu Gly
 115 120 125
 Gly Arg Gly Val Ser Tyr Cys Ala Val Cys Asp Gly Ala Phe Phe Lys
 130 135 140
 Asn Lys Arg Leu Phe Val Ile Gly Gly Gly Asp Ser Ala Val Glu Glu
 145 150 155 160
 Gly Thr Phe Leu Thr Lys Phe Ala Asp Lys Val Thr Ile Val His Arg
 165 170 175
 Arg Asp Glu Leu Arg Ala Gln Arg Ile Leu Gln Asp Arg Ala Phe Lys
 180 185 190
 Asn Asp Lys Ile Asp Phe Ile Trp Ser His Thr Leu Lys Ser Ile Asn
 195 200 205
 Glu Lys Asp Gly Lys Val Gly Ser Val Thr Leu Thr Ser Thr Lys Asp
 210 215 220
 Gly Ser Glu Glu Thr His Glu Ala Asp Gly Val Phe Ile Tyr Ile Gly
 225 230 235 240
 Met Lys Pro Leu Thr Ala Pro Phe Lys Asp Leu Gly Ile Thr Asn Asp
 245 250 255
 Val Gly Tyr Ile Val Thr Lys Asp Asp Met Thr Thr Ser Val Pro Gly
 260 265 270
 Ile Phe Ala Ala Gly Asp Val Arg Asp Lys Gly Leu Arg Gln Ile Val
 275 280 285
 Thr Ala Thr Gly Asp Gly Ser Ile Ala Ala Gln Ser Ala Ala Glu Tyr
 290 295 300
 Ile Glu His Leu Asn Asp Gln Ala
 305 310

<210> 15
 <211> 1356
 <212> DNA
 <213> Homo sapiens

<400> 15
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 cctgaattgg catttaaatt aggaagatac ggtggctatg ttctagcaca taataaagggt 120
 gaaaaaacacc cacgtgtact tgtaggtcgc gatactagag tttcaggtga aatggttagaa 180
 tcagcattaa tagctggttt gattttcaatt ggtgcagaag tgatgcgatt aggtattatt 240
 tcaacaccag gtgttgcata tttaacacgc gatatgggtg cagagttagg tgtaatgatt 300

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tcagcctctc ataatccagt tgcagataat ggtattaaat tctttggatc agatgggttt 360
aaactatcag atgaacaaga aaatgaaatt gaagcattat tggatcaaga aaaccagaa 420
ttaccaagac cagttggcaa tgatattgta cattattcag attactttga aggggcacaa 480
aaatatttga gctattttaa atcaacagta gatgttaact ttgaagggtt gaaaattgct 540
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gcagatactg aaacaattgg atgtagtctt gatggatata atatcaatga gaaatgtggc 660
tctacacatc ctgaaaaatt agctgaaaaa gtagttgaaa ctgaaagtga ttttgggtta 720
gcatttgacg gcgatggaga cagaatcata gcagtagatg agaatgggtc aatcgttgac 780
ggtgaccaa ttatgtttat tattgggtcaa gaaatgcata aaaatcaaga attgaataat 840
gacatgattg tttctactgt tatgagtaat ttaggttttt acaaagcgct tgaacaagaa 900
ggaattaaat ctaataaaaac taaagttggc gacagatatg tagtagaaga aatgcgtcgc 960
ggtaattata acttaggtgg agaacaatct ggacatatcg ttatgatgga ttacaatata 1020
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tcactaagtg aattagctgg acaaatgaaa aaatatccac aatcattaat taacgtacgc 1140
gtaacagata aatatcgtgt tgaagaaaaa gttgacgtta aagaagttat gactaaagta 1200
gaagtagaaa tgaatggaga aggtcgaatt ttagtaagac cttctggaac agaaccatta 1260
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gctgatgtgg ttcaagataa aatgggatta gataaa 1356

```

<210> 16

<211> 452

<212> PRT

<213> Homo sapiens

<400> 16

```

Met Gly Gly Lys Tyr Phe Gly Thr Asp Gly Val Arg Gly Val Ala Asn
  1                      5                      10          15

```

```

Gln Glu Leu Thr Pro Glu Leu Ala Phe Lys Leu Gly Arg Tyr Gly Gly
      20                      25          30

```

```

Tyr Val Leu Ala His Asn Lys Gly Glu Lys His Pro Arg Val Leu Val
      35                      40          45

```

```

Gly Arg Asp Thr Arg Val Ser Gly Glu Met Leu Glu Ser Ala Leu Ile
      50                      55          60

```

```

Ala Gly Leu Ile Ser Ile Gly Ala Glu Val Met Arg Leu Gly Ile Ile
      65                      70          75          80

```

```

Ser Thr Pro Gly Val Ala Tyr Leu Thr Arg Asp Met Gly Ala Glu Leu
      85                      90          95

```

```

Gly Val Met Ile Ser Ala Ser His Asn Pro Val Ala Asp Asn Gly Ile
      100                     105          110

```

```

Lys Phe Phe Gly Ser Asp Gly Phe Lys Leu Ser Asp Glu Gln Glu Asn
      115                     120          125

```

```

Glu Ile Glu Ala Leu Leu Asp Gln Glu Asn Pro Glu Leu Pro Arg Pro
      130                     135          140

```

```

Val Gly Asn Asp Ile Val His Tyr Ser Asp Tyr Phe Glu Gly Ala Gln
      145                     150          155          160

```

```

Lys Tyr Leu Ser Tyr Leu Lys Ser Thr Val Asp Val Asn Phe Glu Gly
      165                     170          175

```

```

Leu Lys Ile Ala Leu Asp Gly Ala Asn Gly Ser Thr Ser Ser Leu Ala
      180                     185          190

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Pro Phe Leu Phe Gly Asp Leu Glu Ala Asp Thr Glu Thr Ile Gly Cys
195 200 205

Ser Pro Asp Gly Tyr Asn Ile Asn Glu Lys Cys Gly Ser Thr His Pro
210 215 220

Glu Lys Leu Ala Glu Lys Val Val Glu Thr Glu Ser Asp Phe Gly Leu
225 230 235 240

Ala Phe Asp Gly Asp Gly Asp Arg Ile Ile Ala Val Asp Glu Asn Gly
245 250 255

Gln Ile Val Asp Gly Asp Gln Ile Met Phe Ile Ile Gly Gln Glu Met
260 265 270

His Lys Asn Gln Glu Leu Asn Asn Asp Met Ile Val Ser Thr Val Met
275 280 285

Ser Asn Leu Gly Phe Tyr Lys Ala Leu Glu Gln Glu Gly Ile Lys Ser
290 295 300

Asn Lys Thr Lys Val Gly Asp Arg Tyr Val Val Glu Glu Met Arg Arg
305 310 315 320

Gly Asn Tyr Asn Leu Gly Gly Glu Gln Ser Gly His Ile Val Met Met
325 330 335

Asp Tyr Asn Thr Thr Gly Asp Gly Leu Leu Thr Gly Ile Gln Leu Ala
340 345 350

Ser Val Ile Lys Met Thr Gly Lys Ser Leu Ser Glu Leu Ala Gly Gln
355 360 365

Met Lys Lys Tyr Pro Gln Ser Leu Ile Asn Val Arg Val Thr Asp Lys
370 375 380

Tyr Arg Val Glu Glu Asn Val Asp Val Lys Glu Val Met Thr Lys Val
385 390 395 400

Glu Val Glu Met Asn Gly Glu Gly Arg Ile Leu Val Arg Pro Ser Gly
405 410 415

Thr Glu Pro Leu Val Arg Val Met Val Glu Ala Ala Thr Asp Glu Asp
420 425 430

Ala Glu Arg Phe Ala Gln Gln Ile Ala Asp Val Val Gln Asp Lys Met
435 440 445

Gly Leu Asp Lys
450

<210> 17

<211> 1359

<212> DNA

<213> Homo sapiens

<400> 17

atgggtttca tgcgaagaca cgcgataatt ttggcagcag gtaaaggcac aagaatgaaa 60

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gaaagtgtga aaggctctgg tgtcgatcaa gttgtaacca tcgtaggaca tgggtgctgaa 180
agtgtaaaag gacatttagg cgagcgttct ttatacagtt ttcaagagga acaactcggg 240
actgcgcatg cagtgc aaat ggcgaaatca cacttagaag acaaggaagg tacgacaatc 300
gttgtatgtg gtgacacacc gctcatcaca aaggaaacat tagtaacatt gattgcgcac 360
cacgaggatg ctaatgctca agcaactgta ttatctgcat cgattcaaca accatatgga 420
tacggaagaa tcgttcgaaa tgcgtcaggt cgtttagaac gcatagttga agagaaagat 480
gcaacgcaag ctgaaaagga tattaatgaa attagttcag gtatttttgc gtttaataat 540
aaaacgttgt ttgaaaaatt aacacaagtg aaaaatgata atgcgcaagg tgaatattac 600
ctccctgatg tattgtcggt aatttttaaat gatggcggca tcgtagaagt ctatcgtacc 660
aatgatgttg aagaaatcat ggggtgtaaat gatcgtgtaa tgcttagtca ggctgagaag 720
gcgatgcaac gtcgtacgaa tcattatcac atgctaaatg gtgtgacaat catcgatcct 780
gacagcactt atattggtcc agacgttaca attggtagtg atacagtcac tgaaccaggc 840
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gggtgcggaa cgattacagt taactatgat ggtgaaaaata aattttaaaac tatcgtcggc 1200
aaagattcat ttgtaggttg caatgttaat ttagtagcac ctgtaacaat tgggtgatgat 1260
gtattggtgg cagctggttc cacaatcaca gatgacgtac caaatgacag tttagctgtg 1320
gcaagagcaa gacaaacaac aaaagaagga tataggaaa 1359

```

<210> 18
 <211> 453
 <212> PRT
 <213> Homo sapiens

<400> 18
 Met Gly Phe Met Arg Arg His Ala Ile Ile Leu Ala Ala Gly Lys Gly
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Thr Arg Met Lys Ser Lys Lys Tyr Lys Val Leu His Glu Val Ala Gly
 20 25 30

Lys Pro Met Val Glu His Val Leu Glu Ser Val Lys Gly Ser Gly Val
 35 40 45

Asp Gln Val Val Thr Ile Val Gly His Gly Ala Glu Ser Val Lys Gly
 50 55 60

His Leu Gly Glu Arg Ser Leu Tyr Ser Phe Gln Glu Glu Gln Leu Gly
 65 70 75 80

Thr Ala His Ala Val Gln Met Ala Lys Ser His Leu Glu Asp Lys Glu
 85 90 95

Gly Thr Thr Ile Val Val Cys Gly Asp Thr Pro Leu Ile Thr Lys Glu
 100 105 110

Thr Leu Val Thr Leu Ile Ala His His Glu Asp Ala Asn Ala Gln Ala
 115 120 125

Thr Val Leu Ser Ala Ser Ile Gln Gln Pro Tyr Gly Tyr Gly Arg Ile
 130 135 140

Val Arg Asn Ala Ser Gly Arg Leu Glu Arg Ile Val Glu Glu Lys Asp
 145 150 155 160

Ala Thr Gln Ala Glu Lys Asp Ile Asn Glu Ile Ser Ser Gly Ile Phe

165										170					175				
Ala	Phe	Asn	Asn	Lys	Thr	Leu	Phe	Glu	Lys	Leu	Thr	Gln	Val	Lys	Asn				
			180					185					190						
Asp	Asn	Ala	Gln	Gly	Glu	Tyr	Tyr	Leu	Pro	Asp	Val	Leu	Ser	Leu	Ile				
		195					200					205							
Leu	Asn	Asp	Gly	Gly	Ile	Val	Glu	Val	Tyr	Arg	Thr	Asn	Asp	Val	Glu				
	210					215					220								
Glu	Ile	Met	Gly	Val	Asn	Asp	Arg	Val	Met	Leu	Ser	Gln	Ala	Glu	Lys				
225					230				235						240				
Ala	Met	Gln	Arg	Arg	Thr	Asn	His	Tyr	His	Met	Leu	Asn	Gly	Val	Thr				
				245					250					255					
Ile	Ile	Asp	Pro	Asp	Ser	Thr	Tyr	Ile	Gly	Pro	Asp	Val	Thr	Ile	Gly				
			260					265					270						
Ser	Asp	Thr	Val	Ile	Glu	Pro	Gly	Val	Arg	Ile	Asn	Gly	Arg	Thr	Glu				
		275					280					285							
Ile	Gly	Glu	Asp	Val	Val	Ile	Gly	Gln	Tyr	Ser	Glu	Ile	Asn	Asn	Ser				
	290					295					300								
Thr	Ile	Glu	Asn	Gly	Ala	Cys	Ile	Gln	Gln	Ser	Val	Val	Asn	Asp	Ala				
305					310						315				320				
Ser	Val	Gly	Ala	Asn	Thr	Lys	Val	Gly	Pro	Phe	Ala	Gln	Leu	Arg	Pro				
				325					330					335					
Gly	Ala	Gln	Leu	Gly	Ala	Asp	Val	Lys	Val	Gly	Asn	Phe	Val	Glu	Ile				
			340					345					350						
Lys	Lys	Ala	Asp	Leu	Lys	Asp	Gly	Ala	Lys	Val	Ser	His	Leu	Ser	Tyr				
		355					360					365							
Ile	Gly	Asp	Ala	Val	Ile	Gly	Glu	Arg	Thr	Asn	Ile	Gly	Cys	Gly	Thr				
Ile	Thr	Val	Asn	Tyr	Asp	Gly	Glu	Asn	Lys	Phe	Lys	Thr	Ile	Val	Gly				
385					390						395				400				
Lys	Asp	Ser	Phe	Val	Gly	Cys	Asn	Val	Asn	Leu	Val	Ala	Pro	Val	Thr				
				405					410					415					
Ile	Gly	Asp	Asp	Val	Leu	Val	Ala	Ala	Gly	Ser	Thr	Ile	Thr	Asp	Asp				
			420					425					430						
Val	Pro	Asn	Asp	Ser	Leu	Ala	Val	Ala	Arg	Ala	Arg	Gln	Thr	Thr	Lys				
			435					440				445							
Glu	Gly	Tyr	Arg	Lys															
	450																		

<210> 19
 <211> 1317
 <212> DNA

<213> Homo sapiens

<400> 19

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ttagcgtata cacctgaaaa atTTTatgat agaaagcaaa ttacagtaaa aacttatcat 240
gaagtatttg caatcaatga tgaaagacaa actgtatctg tattaaatag aaagacaaac 300
gaacaatttg aagaatctta cgataaactc attTTaagcc ctggtgcaag tgcaaatagc 360
cttggctttg aaagtgatat tacattttaca cttagaaatt tagaagacac tgatgctatc 420
gatcaattca tcaaagcaaa tcaagttgat aaagtattgg ttgtaggtgc aggttatgtt 480
tcattagaag ttcttgaaaa tctTTatgaa cgtggTTtac accctacttt aattcatcga 540
tctgataaga taaataaatt aatggatgcc gacatgaatc aacctatact tgatgaatta 600
gataagcggg agattccata ccgTTTaaat gaggaaatta atgctatcaa tggaaatgaa 660
attacattta aatcaggaaa agttgaacat tacgatatga ttattgaagg tgtcgggtact 720
caccCCAatt caaaatttat cgaaagTTca aatatcaaac ttgatcgaag aggtttcata 780
ccggtaaacg ataaatttga aacaaatgtt ccaaacattt atgcaatagg cgatattgca 840
acatcacatt atcgacatgt cgatctaccg gctagtgttc ctttagcttg gggcgctcac 900
cgtgcagcaa gtattgttgc cgaacaaatt gctggaaatg acactattga attcaaaggc 960
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ccaaacgaac taaagcaatt tgactataaa atggtagaag tcactcaagg tgcacacgcg 1080
aattattacc caggaaattc ccctttacac ttaagagtat attatgacac ttcaaaccgt 1140
cagattTTaa gagcagctgc agtaggaaaa gaaggTgcag ataaacgtat tgatgtacta 1200
tcgatggcaa tgatgaacca gctaactgta gatgagTTaa ctgagTTtga agtggcttat 1260
gcaccacat atagccacc taaagattta atcaatatga ttggttacia agctaaa 1317
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<210> 20

<211> 439

<212> PRT

<213> Homo sapiens

<400> 20

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Met Gly Pro Lys Ile Val Val Val Gly Ala Val Ala Gly Gly Ala Thr
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Cys Ala Ser Gln Ile Arg Arg Leu Asp Lys Glu Ser Asp Ile Ile Ile
      20                      25                      30

Phe Glu Lys Asp Arg Asp Met Ser Phe Ala Asn Cys Ala Leu Pro Tyr
      35                      40                      45

Val Ile Gly Glu Val Val Glu Asp Arg Arg Tyr Ala Leu Ala Tyr Thr
      50                      55                      60

Pro Glu Lys Phe Tyr Asp Arg Lys Gln Ile Thr Val Lys Thr Tyr His
      65                      70                      75                      80

Glu Val Ile Ala Ile Asn Asp Glu Arg Gln Thr Val Ser Val Leu Asn
      85                      90                      95

Arg Lys Thr Asn Glu Gln Phe Glu Glu Ser Tyr Asp Lys Leu Ile Leu
      100                      105                      110

Ser Pro Gly Ala Ser Ala Asn Ser Leu Gly Phe Glu Ser Asp Ile Thr
      115                      120                      125

Phe Thr Leu Arg Asn Leu Glu Asp Thr Asp Ala Ile Asp Gln Phe Ile
      130                      135                      140

Lys Ala Asn Gln Val Asp Lys Val Leu Val Val Gly Ala Gly Tyr Val
```


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145		150		155		160
Ser Leu Glu Val	Leu Glu Asn Leu Tyr	Glu Arg Gly Leu His	Pro Thr			
	165	170	175			
Leu Ile His Arg	Ser Asp Lys Ile Asn	Lys Leu Met Asp	Ala Asp Met			
	180	185	190			
Asn Gln Pro Ile	Leu Asp Glu Leu Asp	Lys Arg Glu Ile	Pro Tyr Arg			
	195	200	205			
Leu Asn Glu Glu	Ile Asn Ala Ile Asn	Gly Asn Glu Ile	Thr Phe Lys			
	210	215	220			
Ser Gly Lys Val	Glu His Tyr Asp Met	Ile Ile Glu Gly	Val Gly Thr			
	225	230	235	240		
His Pro Asn Ser	Lys Phe Ile Glu Ser	Ser Asn Ile Lys	Leu Asp Arg			
	245	250	255			
Lys Gly Phe Ile	Pro Val Asn Asp Lys	Phe Glu Thr Asn	Val Pro Asn			
	260	265	270			
Ile Tyr Ala Ile	Gly Asp Ile Ala Thr	Ser His Tyr Arg	His Val Asp			
	275	280	285			
Leu Pro Ala Ser	Val Pro Leu Ala Trp	Gly Ala His Arg	Ala Ala Ser			
	290	295	300			
Ile Val Ala Glu	Gln Ile Ala Gly Asn	Asp Thr Ile Glu	Phe Lys Gly			
	305	310	315	320		
Phe Leu Gly Asn	Asn Ile Val Lys Phe	Phe Asp Tyr Thr	Phe Ala Ser			
	325	330	335			
Val Gly Val Lys	Pro Asn Glu Leu Lys	Gln Phe Asp Tyr	Lys Met Val			
	340	345	350			
Glu Val Thr Gln	Gly Ala His Ala Asn	Tyr Tyr Pro Gly	Asn Ser Pro			
	355	360	365			
Leu His Leu Arg	Val Tyr Tyr Asp Thr	Ser Asn Arg Gln	Ile Leu Arg			
	370	375	380			
Ala Ala Ala Val	Gly Lys Glu Gly Ala	Asp Lys Arg Ile	Asp Val Leu			
	385	390	395	400		
Ser Met Ala Met	Met Asn Gln Leu Thr	Val Asp Glu Leu	Thr Glu Phe			
	405	410	415			
Glu Val Ala Tyr	Ala Pro Pro Tyr Ser	His Pro Lys Asp	Leu Ile Asn			
	420	425	430			
Met Ile Gly Tyr	Lys Ala Lys					
	435					

<210> 21
 <211> 1353
 <212> DNA

09925537.081001

<213> Homo sapiens

<400> 21

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tactttatag gatttttaga agatagccac atgatttctg ctatctctct aacactgcc 180
gtatttgcta tcttaatggg gttaggtaat ttatttggcg ttggtgcagg aacttatatt 240
tcacgtttat taggtgCGaa agactatagt aagagtaaat ttgtaagtag tttctctatt 300
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atcgCagcaa ttttaggggc gagaggTgaa acgttagctt taacaagtaa ttatttgaaa 420
gtaatgtttt taagtgcacc ttttgtaatt ttgttcttca tattagaaca atttgcacgt 480
gcaattgggg caccaatggT ttctatgatt ggtatgTtag ctagtgtagg cttaaattatt 540
atttttagatc caatttttaT ttttgggttt gattttaaCg ttgttggTgc agctttgggt 600
actgcaatca gtaatgtTgc Tgctgctctg ttctttatca tttattttat gaaaaatagt 660
gacgttTgtgT cagttaatat taaactTgcg aaacctaata aagaaatgct ttctgaaatc 720
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ccagtattat ttattatgaa Tgctttgttt ggactaacag gtgtcatttg gtcattatta 1260
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<210> 22

<211> 451

<212> PRT

<213> Homo sapiens

<400> 22

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Met Lys Asp Glu Gln Leu Tyr Tyr Phe Glu Lys Ser Pro Val Phe Lys
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Ala Met Met His Phe Ser Leu Pro Met Met Ile Gly Thr Leu Leu Ser
      20                25                30

Val Ile Tyr Gly Ile Leu Asn Ile Tyr Phe Ile Gly Phe Leu Glu Asp
      35                40                45

Ser His Met Ile Ser Ala Ile Ser Leu Thr Leu Pro Val Phe Ala Ile
      50                55                60

Leu Met Gly Leu Gly Asn Leu Phe Gly Val Gly Ala Gly Thr Tyr Ile
      65                70                75                80

Ser Arg Leu Leu Gly Ala Lys Asp Tyr Ser Lys Ser Lys Phe Val Ser
      85                90                95

Ser Phe Ser Ile Tyr Gly Gly Ile Ala Leu Gly Leu Ile Val Ile Leu
      100                105                110

Val Thr Leu Pro Phe Ser Asp Gln Ile Ala Ala Ile Leu Gly Ala Arg
      115                120                125

Gly Glu Thr Leu Ala Leu Thr Ser Asn Tyr Leu Lys Val Met Phe Leu
      130                135                140
```

Ser	Ala	Pro	Phe	Val	Ile	Leu	Phe	Phe	Ile	Leu	Glu	Gln	Phe	Ala	Arg	145	150	155	160
Ala	Ile	Gly	Ala	Pro	Met	Val	Ser	Met	Ile	Gly	Met	Leu	Ala	Ser	Val	165	170	175	
Gly	Leu	Asn	Ile	Ile	Leu	Asp	Pro	Ile	Leu	Ile	Phe	Gly	Phe	Asp	Leu	180	185	190	
Asn	Val	Val	Gly	Ala	Ala	Leu	Gly	Thr	Ala	Ile	Ser	Asn	Val	Ala	Ala	195	200	205	
Ala	Leu	Phe	Phe	Ile	Ile	Tyr	Phe	Met	Lys	Asn	Ser	Asp	Val	Val	Ser	210	215	220	
Val	Asn	Ile	Lys	Leu	Ala	Lys	Pro	Asn	Lys	Glu	Met	Leu	Ser	Glu	Ile	225	230	235	240
Phe	Lys	Ile	Gly	Ile	Pro	Ala	Phe	Leu	Met	Ser	Ile	Leu	Met	Gly	Phe	245	250	255	
Thr	Gly	Leu	Val	Leu	Asn	Leu	Phe	Leu	Ala	His	Tyr	Gly	Asn	Phe	Ala	260	265	270	
Ile	Ala	Ser	Tyr	Gly	Ile	Ser	Phe	Arg	Leu	Val	Gln	Phe	Pro	Glu	Leu	275	280	285	
Ile	Ile	Met	Gly	Leu	Cys	Glu	Gly	Val	Val	Pro	Leu	Ile	Ala	Tyr	Asn	290	295	300	
Phe	Met	Ala	Asn	Lys	Gly	Arg	Met	Lys	Asp	Val	Ile	Lys	Ala	Val	Ile	305	310	315	320
Met	Ser	Ile	Gly	Val	Ile	Phe	Val	Val	Cys	Met	Ser	Ala	Val	Phe	Thr	325	330	335	
Ile	Gly	His	His	Met	Val	Gly	Leu	Phe	Thr	Thr	Asp	Gln	Ala	Ile	Val	340	345	350	
Glu	Met	Ala	Thr	Phe	Ile	Leu	Lys	Val	Thr	Met	Ala	Ser	Leu	Leu	Leu	355	360	365	
Asn	Gly	Ile	Gly	Phe	Leu	Phe	Thr	Gly	Met	Leu	Gln	Ala	Thr	Gly	Gln	370	375	380	
Gly	Arg	Gly	Ala	Thr	Ile	Met	Ala	Ile	Leu	Gln	Gly	Ala	Ile	Ile	Ile	385	390	395	400
Pro	Val	Leu	Phe	Ile	Met	Asn	Ala	Leu	Phe	Gly	Leu	Thr	Gly	Val	Ile	405	410	415	
Trp	Ser	Leu	Leu	Ile	Ala	Glu	Ser	Leu	Cys	Ala	Leu	Ala	Ala	Met	Leu	420	425	430	
Ile	Val	Tyr	Leu	Leu	Arg	Asp	Arg	Leu	Thr	Val	Asp	Thr	Ser	Glu	Leu	435	440	445	
Ile	Glu	Gly														450			

<210> 23
 <211> 1479
 <212> DNA
 <213> Homo sapiens

<400> 23
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 gcttcagttg gatatactgt agacagtcac aagttctgtc aaaatgtagc tgatcaaggg 180
 tgtaagttgg tagtgggtcaa taaagaacaa tcattaccag ctaacgtaac acaagtgggt 240
 gtgccggaca cattaagagt agctagtatt ctacacacac cattatatga ttatccgagt 300
 catcagtttag tgacatttgg tgtaacgggt acaaatggta aaacttctat tgcgacgatg 360
 attcattttaa ttcaaagaaa gttacaaaaa aatagtgcac atttaggaac taatgggttc 420
 caaattaatg aaacaaagac aaaagggtgca aatacgacac cagaaacagt ttctttaact 480
 aagaaaatta aagaagcagt tgatgcaggc gctgaatcta tgacattaga agtatcaagc 540
 catggcctag tattaggacg actgcgaggc gttgaatttg acgttgcaat attttcaaat 600
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 ttattgttta gtcaattagg tgaagatttg tcgaaagaaa agtatgtcgt gttaaacaat 720
 gacgattcat tttctgagta ttttaagaaca gtgacgcctt atgaagtatt tagttatgga 780
 attgatgagg aagcccaatt tatggctaaa aatattcaag aatctttaca aggtgtcagc 840
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 aatattttcta atattatggc ggcaatgatt gcggtgtgga gtaaagggtac atcttttagaa 960
 acgattatta aagctgttga aaatttagaa cctgttgaag ggcgattaga agtttttagat 1020
 ccttcgttac ctattgattt aattatcgat tatgcacata cagctgatgg tatgaacaaa 1080
 ttaatcgatg cagtacagcc ttttgtaaaag caaaagttga tatttttagt tggtagggca 1140
 ggcgaacgtg atttaactaa aacgcctgaa atggggcgag ttgcctgtcg tgcagattat 1200
 gtcattttca caccggataa tccggcaaat gatgaccoga aaatgttaac ggcagaatta 1260
 gccaaagggt caacacatca aaactatatt gaatttgatg atcgtgcaga agggataaaa 1320
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<210> 24
 <211> 493
 <212> PRT
 <213> Homo sapiens

<400> 24
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 20 25 30
 Ala Arg Glu Gly Ser Ile Phe Val Ala Ser Val Gly Tyr Thr Val Asp
 35 40 45
 Ser His Lys Phe Cys Gln Asn Val Ala Asp Gln Gly Cys Lys Leu Val
 50 55 60
 Val Val Asn Lys Glu Gln Ser Leu Pro Ala Asn Val Thr Gln Val Val
 65 70 75 80
 Val Pro Asp Thr Leu Arg Val Ala Ser Ile Leu Ala His Thr Leu Tyr
 85 90 95
 Asp Tyr Pro Ser His Gln Leu Val Thr Phe Gly Val Thr Gly Thr Asn
 100 105 110

Gly	Lys	Thr	Ser	Ile	Ala	Thr	Met	Ile	His	Leu	Ile	Gln	Arg	Lys	Leu	115	120	125
Gln	Lys	Asn	Ser	Ala	Tyr	Leu	Gly	Thr	Asn	Gly	Phe	Gln	Ile	Asn	Glu	130	135	140
Thr	Lys	Thr	Lys	Gly	Ala	Asn	Thr	Thr	Pro	Glu	Thr	Val	Ser	Leu	Thr	145	150	155
Lys	Lys	Ile	Lys	Glu	Ala	Val	Asp	Ala	Gly	Ala	Glu	Ser	Met	Thr	Leu	165	170	175
Glu	Val	Ser	Ser	His	Gly	Leu	Val	Leu	Gly	Arg	Leu	Arg	Gly	Val	Glu	180	185	190
Phe	Asp	Val	Ala	Ile	Phe	Ser	Asn	Leu	Thr	Gln	Asp	His	Leu	Asp	Phe	195	200	205
His	Gly	Thr	Met	Glu	Ala	Tyr	Gly	His	Ala	Lys	Ser	Leu	Leu	Phe	Ser	210	215	220
Gln	Leu	Gly	Glu	Asp	Leu	Ser	Lys	Glu	Lys	Tyr	Val	Val	Leu	Asn	Asn	225	230	235
Asp	Asp	Ser	Phe	Ser	Glu	Tyr	Leu	Arg	Thr	Val	Thr	Pro	Tyr	Glu	Val	245	250	255
Phe	Ser	Tyr	Gly	Ile	Asp	Glu	Glu	Ala	Gln	Phe	Met	Ala	Lys	Asn	Ile	260	265	270
Gln	Glu	Ser	Leu	Gln	Gly	Val	Ser	Phe	Asp	Phe	Val	Thr	Pro	Phe	Gly	275	280	285
Thr	Tyr	Pro	Val	Lys	Ser	Pro	Tyr	Val	Gly	Lys	Phe	Asn	Ile	Ser	Asn	290	295	300
Ile	Met	Ala	Ala	Met	Ile	Ala	Val	Trp	Ser	Lys	Gly	Thr	Ser	Leu	Glu	305	310	315
Thr	Ile	Ile	Lys	Ala	Val	Glu	Asn	Leu	Glu	Pro	Val	Glu	Gly	Arg	Leu	325	330	335
Glu	Val	Leu	Asp	Pro	Ser	Leu	Pro	Ile	Asp	Leu	Ile	Ile	Asp	Tyr	Ala	340	345	350
His	Thr	Ala	Asp	Gly	Met	Asn	Lys	Leu	Ile	Asp	Ala	Val	Gln	Pro	Phe	355	360	365
Val	Lys	Gln	Lys	Leu	Ile	Phe	Leu	Val	Gly	Met	Ala	Gly	Glu	Arg	Asp	370	375	380
Leu	Thr	Lys	Thr	Pro	Glu	Met	Gly	Arg	Val	Ala	Cys	Arg	Ala	Asp	Tyr	385	390	395
Val	Ile	Phe	Thr	Pro	Asp	Asn	Pro	Ala	Asn	Asp	Asp	Pro	Lys	Met	Leu	405	410	415
Thr	Ala	Glu	Leu	Ala	Lys	Gly	Ala	Thr	His	Gln	Asn	Tyr	Ile	Glu	Phe	420	425	430

Asp Asp Arg Ala Glu Gly Ile Lys His Ala Ile Asp Ile Ala Glu Pro
435 440 445

Gly Asp Thr Val Val Leu Ala Ser Lys Gly Arg Glu Pro Tyr Gln Ile
450 455 460

Met Pro Gly His Ile Lys Val Pro His Arg Asp Asp Leu Ile Gly Leu
465 470 475 480

Glu Ala Ala Tyr Lys Lys Phe Gly Gly Gly Pro Val Asp
485 490

<210> 25

<211> 1356

<212> DNA

<213> Homo sapiens

<400> 25

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ttatttatac catttaaaagg tgaaaatggt gacgggtcatc gctttgtctc taaagcatta 180
caagatgggtg ctggggctgc tttttatcaa agaggggacac ctatagatga aaatgtaagc 240
gggcctatta tatgggttga agacacatta acggcattac aacaattggc acaagcttac 300
ttgagacatg taaaccctaa agtaattgcc gtcacagggt ctaatggtaa aacaacgact 360
aaagatatga ttgaaagtgt attgcatacc gaatttaaag ttaagaaaac gcaaggtaat 420
tacaataatg aaattgggtt acctttaact attttggaat tagataatga tactgaaata 480
tcaatattgg agatggggat gtcagggttc catgaaattg aatttctgtc aaacctcgct 540
caaccagata ttgcagttat aactaatatt ggtgagtcac atatgcaaga tttaggttcg 600
cgcgagggga ttgctaaagc taaatctgaa attacaatag gtctaaaaga taatggtacg 660
tttatatatg atggcgatga accattattg aaaccacatg ttaaagaagt tgaaaatgca 720
aaatgtatta gtattgggtg tgctactgat aatgcattag tttgttctgt tgatgataga 780
gatactacag gtatttcatt tacgattaat aataaagaac attacgatct gccaatatta 840
ggaaagcata atatgaaaaa tgcgacgatt gccattgcgg ttggtcatga attaggtttg 900
acataataca caatctatca aaatttaaaa aatgtcagct taactggtat gcgtatggaa 960
caacatacat tagaaaatga tattactgtg ataaatgatg cctataatgc aagtcctaca 1020
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gattcggggc agcaacatgt cgaaaaagca caacacttca attctaaaga cgatatgata 1260
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atgaaattag aagaagtggg aaatgcttta atttca 1356
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<210> 26

<211> 452

<212> PRT

<213> Homo sapiens

<400> 26

Met Ile Asn Val Thr Leu Lys Gln Ile Gln Ser Trp Ile Pro Cys Glu
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20 25 30

Ser Arg Ala Ile Ser Lys Asn Met Leu Phe Ile Pro Phe Lys Gly Glu
35 40 45

Asn Val Asp Gly His Arg Phe Val Ser Lys Ala Leu Gln Asp Gly Ala
50 55 60

Gly	Ala	Ala	Phe	Tyr	Gln	Arg	Gly	Thr	Pro	Ile	Asp	Glu	Asn	Val	Ser	
65					70					75					80	
Gly	Pro	Ile	Ile	Trp	Val	Glu	Asp	Thr	Leu	Thr	Ala	Leu	Gln	Gln	Leu	
				85					90					95		
Ala	Gln	Ala	Tyr	Leu	Arg	His	Val	Asn	Pro	Lys	Val	Ile	Ala	Val	Thr	
			100					105					110			
Gly	Ser	Asn	Gly	Lys	Thr	Thr	Thr	Lys	Asp	Met	Ile	Glu	Ser	Val	Leu	
		115					120					125				
His	Thr	Glu	Phe	Lys	Val	Lys	Lys	Thr	Gln	Gly	Asn	Tyr	Asn	Asn	Glu	
	130					135					140					
Ile	Gly	Leu	Pro	Leu	Thr	Ile	Leu	Glu	Leu	Asp	Asn	Asp	Thr	Glu	Ile	
145					150					155					160	
Ser	Ile	Leu	Glu	Met	Gly	Met	Ser	Gly	Phe	His	Glu	Ile	Glu	Phe	Leu	
				165					170					175		
Ser	Asn	Leu	Ala	Gln	Pro	Asp	Ile	Ala	Val	Ile	Thr	Asn	Ile	Gly	Glu	
			180					185					190			
Ser	His	Met	Gln	Asp	Leu	Gly	Ser	Arg	Glu	Gly	Ile	Ala	Lys	Ala	Lys	
		195					200					205				
Ser	Glu	Ile	Thr	Ile	Gly	Leu	Lys	Asp	Asn	Gly	Thr	Phe	Ile	Tyr	Asp	
	210					215					220					
Gly	Asp	Glu	Pro	Leu	Leu	Lys	Pro	His	Val	Lys	Glu	Val	Glu	Asn	Ala	
225					230					235					240	
Lys	Cys	Ile	Ser	Ile	Gly	Val	Ala	Thr	Asp	Asn	Ala	Leu	Val	Cys	Ser	
				245					250					255		
Val	Asp	Asp	Arg	Asp	Thr	Thr	Gly	Ile	Ser	Phe	Thr	Ile	Asn	Asn	Lys	
			260				265						270			
Glu	His	Tyr	Asp	Leu	Pro	Ile	Leu	Gly	Lys	His	Asn	Met	Lys	Asn	Ala	
		275					280					285				
Thr	Ile	Ala	Ile	Ala	Val	Gly	His	Glu	Leu	Gly	Leu	Thr	Tyr	Asn	Thr	
	290					295					300					
Ile	Tyr	Gln	Asn	Leu	Lys	Asn	Val	Ser	Leu	Thr	Gly	Met	Arg	Met	Glu	
305				310						315					320	
Gln	His	Thr	Leu	Glu	Asn	Asp	Ile	Thr	Val	Ile	Asn	Asp	Ala	Tyr	Asn	
			325						330					335		
Ala	Ser	Pro	Thr	Ser	Met	Arg	Ala	Ala	Ile	Asp	Thr	Leu	Ser	Thr	Leu	
			340					345					350			
Thr	Gly	Arg	Arg	Ile	Leu	Ile	Leu	Gly	Asp	Val	Leu	Glu	Leu	Gly	Glu	
		355					360					365				
Asn	Ser	Lys	Glu	Met	His	Ile	Gly	Val	Gly	Asn	Tyr	Leu	Glu	Glu	Lys	
	370					375					380					

His Ile Asp Val Leu Tyr Thr Phe Gly Asn Glu Ala Lys Tyr Ile Tyr
385 390 395 400

Asp Ser Gly Gln Gln His Val Glu Lys Ala Gln His Phe Asn Ser Lys
405 410 415

Asp Asp Met Ile Glu Val Leu Ile Asn Asp Leu Lys Ala His Asp Arg
420 425 430

Val Leu Val Lys Gly Ser Arg Gly Met Lys Leu Glu Glu Val Val Asn
435 440 445

Ala Leu Ile Ser
450

<210> 27

<211> 399

<212> DNA

<213> Homo sapiens

<400> 27

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cgtcacgaga agttagaatt acctgcatca aatattaaaa aagaaattgc tgaaatctta 120
aagagtgaag gtttcattaa aaatggtgaa tacgtagaag atgataaaca aggtgtactt 180
cgtttattct taaaatatgg tcaaaacgat gagcgtgtta tcacaggatt aaaacgtatt 240
tcaaaaccag gtttacgtgt ttatgcaaaa gctagcgaaa tgcctaaagt attaaatggt 300
ttaggtattg cattagtatc aacttctgaa ggtgtaatca ctgacaaaga agcaagaaaa 360
cgtaatgttg gtggagaaat tatcgcatac gtttggttaa 399

<210> 28

<211> 132

<212> PRT

<213> Homo sapiens

<400> 28

Met Thr Met Thr Asp Pro Ile Ala Asp Met Leu Thr Arg Val Arg Asn
1 5 10 15

Ala Asn Met Val Arg His Glu Lys Leu Glu Leu Pro Ala Ser Asn Ile
20 25 30

Lys Lys Glu Ile Ala Glu Ile Leu Lys Ser Glu Gly Phe Ile Lys Asn
35 40 45

Val Glu Tyr Val Glu Asp Asp Lys Gln Gly Val Leu Arg Leu Phe Leu
50 55 60

Lys Tyr Gly Gln Asn Asp Glu Arg Val Ile Thr Gly Leu Lys Arg Ile
65 70 75 80

Ser Lys Pro Gly Leu Arg Val Tyr Ala Lys Ala Ser Glu Met Pro Lys
85 90 95

Val Leu Asn Gly Leu Gly Ile Ala Leu Val Ser Thr Ser Glu Gly Val
100 105 110

Ile Thr Asp Lys Glu Ala Arg Lys Arg Asn Val Gly Gly Glu Ile Ile
115 120 125

099567-081001

<400>	29						
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gaacactttac	gtacacacaa	aaaagaccac	cattcacgtc	gtggattatt	aaaaatggta	180	
ggtcgtcgta	gacattttat	aaactactta	cgtagtaaag	atatttcaacg	ttaccgtgaa	240	
ttaattaaat	cacttqqcat	ccqtcqct				267	

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<400> 30
Met Ala Ile Ser Gln Glu Arg Lys Asn Glu Ile Ile Lys Glu Tyr Arg
  1             5             10             15

Val His Glu Thr Asp Thr Gly Ser Pro Glu Val Gln Ile Ala Val Leu
      20             25             30

Thr Ala Glu Ile Asn Ala Val Asn Glu His Leu Arg Thr His Lys Lys
      35             40             45

Asp His His Ser Arg Arg Gly Leu Leu Lys Met Val Gly Arg Arg Arg
  50             55             60

His Leu Leu Asn Tyr Leu Arg Ser Lys Asp Ile Gln Arg Tyr Arg Glu
  65             70             75             80

Leu Ile Lys Ser Leu Gly Ile Arg Arg
      85

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<400> 31						
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ttaaaaatcc	gtaaatttat	tgataatgaa	ttaaaagaag	catcagtttc	tcacgtagag	180
attgaacgtg	ctgcaaacct	tatcaacatt	gcaattcata	ctggtaaac	tggtattgta	240
attggtaaag	gcggttcaga	aatcgaaaaa	ttaacgcaaca	aattaaatgc	gttaactgat	300
aaaaaagtac	acatcaacgt	aattgaaatc	aaaaaagttg	atcttgacgc	tcgtttagta	360
gctgaaaaca	tcgcacgtca	attagaaaac	cgtgcttcac	tccgtcgtgt	acaaaaacaa	420
gcaatcacta	gagctatgaa	acttggtgct	aaaggatatca	aaactcaagt	atctggtcgt	480
ttaggcggag	ctgacatcgc	tcgtgctgaa	caatattcag	aaggaactgt	tccacttcac	540
acgttacctg	ctgacatcga	ttatgcacac	gctgaagctg	acactactta	cggtaaatta	600
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qaaaaa						666

<210> 32
 <211> 217
 <212> PRT
 <213> Homo sapiens

<400> 32
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 Asp Trp Glu Ala Lys Trp Tyr Ala Glu Lys Asp Phe Ala Ser Leu Leu
 20 25 30
 His Glu Asp Leu Lys Ile Arg Lys Phe Ile Asp Asn Glu Leu Lys Glu
 35 40 45
 Ala Ser Val Ser His Val Glu Ile Glu Arg Ala Ala Asn Arg Ile Asn
 50 55 60
 Ile Ala Ile His Thr Gly Lys Pro Gly Met Val Ile Gly Lys Gly Gly
 65 70 75 80
 Ser Glu Ile Glu Lys Leu Arg Asn Lys Leu Asn Ala Leu Thr Asp Lys
 85 90 95
 Lys Val His Ile Asn Val Ile Glu Ile Lys Lys Val Asp Leu Asp Ala
 100 105 110
 Arg Leu Val Ala Glu Asn Ile Ala Arg Gln Leu Glu Asn Arg Ala Ser
 115 120 125
 Phe Arg Arg Val Gln Lys Gln Ala Ile Thr Arg Ala Met Lys Leu Gly
 130 135 140
 Ala Lys Gly Ile Lys Thr Gln Val Ser Gly Arg Leu Gly Gly Ala Asp
 145 150 155 160
 Ile Ala Arg Ala Glu Gln Tyr Ser Glu Gly Thr Val Pro Leu His Thr
 165 170 175
 Leu Arg Ala Asp Ile Asp Tyr Ala His Ala Glu Ala Asp Thr Thr Tyr
 180 185 190
 Gly Lys Leu Gly Val Lys Val Trp Ile Tyr Arg Gly Glu Val Leu Pro
 195 200 205
 Thr Lys Asn Thr Ser Gly Gly Gly Lys
 210 215

<210> 33
 <211> 498
 <212> DNA
 <213> Homo sapiens

<400> 33
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 gacaaaaaatg gtcgtgtagg tttcgggtact ggtaaagctc aagaggtacc agaagcaatc 180
 aaaaaagctg ttgaagcagc taaaaaagat ttagtagttg ttccacgtgt tgaaggtaca 240

0925637.081001

actccacaca caattactgg ccggttacggt tcaggaagcg tatttatgaa accggctgca 300
 cctggtacag gagttatcgc tgggtggtcct gttcgtgccc tacttgaatt agcaggtatc 360
 actgatatct taagtaaatac attaggatca aacacaccaa tcaacatggt tcgtgctaca 420
 atcgatgggt tacaaaacct taaaaatgct gaagatggtg cgaaattacg tggcaaaaca 480
 gtagaagaat tatacaat 498

<210> 34

<211> 166

<212> PRT

<213> Homo sapiens

<400> 34

Met Ala Arg Arg Glu Glu Glu Thr Lys Glu Phe Glu Glu Arg Val Val
 1 5 10 15

Thr Ile Asn Arg Val Ala Lys Val Val Lys Gly Gly Arg Arg Phe Arg
 20 25 30

Phe Thr Ala Leu Val Val Val Gly Asp Lys Asn Gly Arg Val Gly Phe
 35 40 45

Gly Thr Gly Lys Ala Gln Glu Val Pro Glu Ala Ile Lys Lys Ala Val
 50 55 60

Glu Ala Ala Lys Lys Asp Leu Val Val Val Pro Arg Val Glu Gly Thr
 65 70 75 80

Thr Pro His Thr Ile Thr Gly Arg Tyr Gly Ser Gly Ser Val Phe Met
 85 90 95

Lys Pro Ala Ala Pro Gly Thr Gly Val Ile Ala Gly Gly Pro Val Arg
 100 105 110

Ala Val Leu Glu Leu Ala Gly Ile Thr Asp Ile Leu Ser Lys Ser Leu
 115 120 125

Gly Ser Asn Thr Pro Ile Asn Met Val Arg Ala Thr Ile Asp Gly Leu
 130 135 140

Gln Asn Leu Lys Asn Ala Glu Asp Val Ala Lys Leu Arg Gly Lys Thr
 145 150 155 160

Val Glu Glu Leu Tyr Asn
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<210> 35

<211> 390

<212> DNA

<213> Homo sapiens

<400> 35

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 ttcgaatcat taattttaga cttaaaccac ccatttgatg taactgaaac taaaggtaac 180
 tatgatgttt tagttaacgt tcatggtggt ggtttcactg gacaagctca agctatccgt 240
 cacggaatcg ctcgtgcatt attagaagca gatcctgaat acagagggtc tttaaaacgc 300
 gctggattac ttactcgtga cccacgtatg aaagaacata aaaaaccagg tcttaaagca 360
 gtcgtcgtt cacctcaatt ctcaaaacgt 390

<210> 36
 <211> 130
 <212> PRT
 <213> Homo sapiens

<400> 36
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 Ala Arg Val Arg Leu Val Pro Gly Glu Gly Asn Ile Thr Val Asn Asn
 20 25 30
 Arg Asp Val Arg Glu Tyr Leu Pro Phe Glu Ser Leu Ile Leu Asp Leu
 35 40 45
 Asn Gln Pro Phe Asp Val Thr Glu Thr Lys Gly Asn Tyr Asp Val Leu
 50 55 60
 Val Asn Val His Gly Gly Gly Phe Thr Gly Gln Ala Gln Ala Ile Arg
 65 70 75 80
 His Gly Ile Ala Arg Ala Leu Leu Glu Ala Asp Pro Glu Tyr Arg Gly
 85 90 95
 Ser Leu Lys Arg Ala Gly Leu Leu Thr Arg Asp Pro Arg Met Lys Glu
 100 105 110
 His Lys Lys Pro Gly Leu Lys Ala Ala Arg Arg Ser Pro Gln Phe Ser
 115 120 125
 Lys Arg
 130

<210> 37
 <211> 306
 <212> DNA
 <213> Homo sapiens

<400> 37
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 ccgttaccaa ctgagaaatc agtttacaca atcatccgtg ccgtgcataa gtataaagat 180
 tcacgtgaac aattcgaaca acgtacacac aaacgtttta tcgatattgt aaaccaaca 240
 ccaaaaacag ttgacgcttt aatgggctta aatttaccat ctggtgtaga catcgaaatc 300
 aaatta 306

<210> 38
 <211> 102
 <212> PRT
 <213> Homo sapiens

<400> 38
 Met Ala Lys Gln Lys Ile Arg Ile Arg Leu Lys Ala Tyr Asp His Arg
 1 5 10 15
 Val Ile Asp Gln Ser Ala Glu Lys Ile Val Glu Thr Ala Lys Arg Ser
 20 25 30
 Gly Ala Asp Val Ser Gly Pro Ile Pro Leu Pro Thr Glu Lys Ser Val

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35 40 45
Tyr Thr Ile Ile Arg Ala Val His Lys Tyr Lys Asp Ser Arg Glu Gln
50 55 60
Phe Glu Gln Arg Thr His Lys Arg Leu Ile Asp Ile Val Asn Pro Thr
65 70 75 80
Pro Lys Thr Val Asp Ala Leu Met Gly Leu Asn Leu Pro Ser Gly Val
85 90 95
Asp Ile Glu Ile Lys Leu
100

<210> 39
<211> 267
<212> DNA
<213> Homo sapiens

<400> 39
atgggctaaga aatctaaaat agcaaaagag agaaaaagag aagagttagt aaataaatat 60
tacgaattac gtaaagagtt aaaagcaaaa ggtgattacg aagcgttaag aaaattacca 120
agagattcat cacctacacg tttaactaga agatgtaaag taactggaag acctagaggt 180
gtattacgta aatttgaaat gtctcgtatt gcgttttagag aacatgcgca caaaggacaa 240
attccagggtg ttaaaaaatc aagttgg 267

<210> 40
<211> 89
<212> PRT
<213> Homo sapiens

<400> 40
Met Ala Lys Lys Ser Lys Ile Ala Lys Glu Arg Lys Arg Glu Glu Leu
1 5 10 15
Val Asn Lys Tyr Tyr Glu Leu Arg Lys Glu Leu Lys Ala Lys Gly Asp
20 25 30

~~Tyr Glu Ala Leu Arg Lys Leu Pro Arg Asp Ser Ser Pro Thr Arg Leu~~
35 40 45

Thr Arg Arg Cys Lys Val Thr Gly Arg Pro Arg Gly Val Leu Arg Lys
50 55 60

Phe Glu Met Ser Arg Ile Ala Phe Arg Glu His Ala His Lys Gly Gln
65 70 75 80

Ile Pro Gly Val Lys Lys Ser Ser Trp
85

<210> 41
<211> 276
<212> DNA
<213> Homo sapiens

<400> 41
atggctcgta gtattaaaaa aggacctttc gtcgatgagc atttaatgaa aaaagttgaa 60
gctcaagaag gaagcgaaaa gaaacaagta atcaaaacat ggtcacgtcg ttctacaatt 120

ttccctaatt tcacgggaca tacttttgca gtatacgacg gacgtaaaca cgtacctgta 180
 tatgtaactg aagatatggt aggtcataaa ttaggtgagt ttgctcctac tcgtacattc 240
 aaaggacacg ttgcagacga caagaaaaca agaaga 276

<210> 42
 <211> 92
 <212> PRT
 <213> Homo sapiens

<400> 42
 Met Ala Arg Ser Ile Lys Lys Gly Pro Phe Val Asp Glu His Leu Met
 1 5 10 15
 Lys Lys Val Glu Ala Gln Glu Gly Ser Glu Lys Lys Gln Val Ile Lys
 20 25 30
 Thr Trp Ser Arg Arg Ser Thr Ile Phe Pro Asn Phe Ile Gly His Thr
 35 40 45
 Phe Ala Val Tyr Asp Gly Arg Lys His Val Pro Val Tyr Val Thr Glu
 50 55 60
 Asp Met Val Gly His Lys Leu Gly Glu Phe Ala Pro Thr Arg Thr Phe
 65 70 75 80
 Lys Gly His Val Ala Asp Asp Lys Lys Thr Arg Arg
 85 90

<210> 43
 <211> 183
 <212> DNA
 <213> Homo sapiens

<400> 43
 atggctaataa cttcaatggt tgctaagcaa caaaaaaac aaaaatatgc agttcgtgaa 60
 tacactcggt gtgaacgttg tggcgcgtcca cattctgtat atcgtaaatt taaattatgc 120
 cgtatttggt tccgtgaatt agcttacaaa ggccaaatcc ctggcgttcg taaagctagc 180
 tgg 183

<210> 44
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 44
 Met Ala Lys Thr Ser Met Val Ala Lys Gln Gln Lys Lys Gln Lys Tyr
 1 5 10 15
 Ala Val Arg Glu Tyr Thr Arg Cys Glu Arg Cys Gly Arg Pro His Ser
 20 25 30
 Val Tyr Arg Lys Phe Lys Leu Cys Arg Ile Cys Phe Arg Glu Leu Ala
 35 40 45
 Tyr Lys Gly Gln Ile Pro Gly Val Arg Lys Ala Ser Trp
 50 55 60

<210> 45

<211> 699
 <212> DNA
 <213> Homo sapiens

<400> 45
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 aacttaaaaa aagaaggata cgatgtgtac tgtgcatacg atggtaatga tgcagtcgac 120
 ttaatttatg aagaagaacc agacatcgta ttactagata tcatgttacc tggtcgtgat 180
 ggtatggaag tatgtcgtga agtgcgcaaa aaatacgaaa tgccaataat aatgcttact 240
 gctaaagatt cagaaattga taaagtgtt ggtttagaac taggtgcaga tgactatgta 300
 acgaaaccgt ttagtacgcg tgaattaatc gcacgtgtga aagcgaactt acgtcgtcat 360
 tactcacaac cagcacaaga cactggaaat gtaacgaatg aaatcacaat taaagatatt 420
 gtgatttatc cagacgcata ttctattaaa aaacgtggcg aagatattga attaacacat 480
 cgtgaatttg aattgttcca ttatttatca aaacatatgg gacaagtaat gacacgtgaa 540
 catttattac aaacagtatg gggctatgat tactttggcg atgtacgtac ggtcgatgta 600
 acgattcgtc gtttacgtga aaagattgaa gatgatccgt cacatcctga atatattgtg 660
 acgcgtagag gcgttgata tttcctccaa caacatgag 699

<210> 46
 <211> 233
 <212> PRT
 <213> Homo sapiens

<400> 46
 Met Ala Arg Lys Val Val Val Val Asp Asp Glu Lys Pro Ile Ala Asp
 1 5 10 15
 Ile Leu Glu Phe Asn Leu Lys Lys Glu Gly Tyr Asp Val Tyr Cys Ala
 20 25 30
 Tyr Asp Gly Asn Asp Ala Val Asp Leu Ile Tyr Glu Glu Glu Pro Asp
 35 40 45
 Ile Val Leu Leu Asp Ile Met Leu Pro Gly Arg Asp Gly Met Glu Val
 50 55 60
 Cys Arg Glu Val Arg Lys Lys Tyr Glu Met Pro Ile Ile Met Leu Thr
 65 70 75 80
 Ala Lys Asp Ser Glu Ile Asp Lys Val Leu Gly Leu Glu Leu Gly Ala
 85 90 95
 Asp Asp Tyr Val Thr Lys Pro Phe Ser Thr Arg Glu Leu Ile Ala Arg
 100 105 110
 Val Lys Ala Asn Leu Arg Arg His Tyr Ser Gln Pro Ala Gln Asp Thr
 115 120 125
 Gly Asn Val Thr Asn Glu Ile Thr Ile Lys Asp Ile Val Ile Tyr Pro
 130 135 140
 Asp Ala Tyr Ser Ile Lys Lys Arg Gly Glu Asp Ile Glu Leu Thr His
 145 150 155 160
 Arg Glu Phe Glu Leu Phe His Tyr Leu Ser Lys His Met Gly Gln Val
 165 170 175
 Met Thr Arg Glu His Leu Leu Gln Thr Val Trp Gly Tyr Asp Tyr Phe
 180 185 190

Gly Asp Val Arg Thr Val Asp Val Thr Ile Arg Arg Leu Arg Glu Lys
195 200 205

Ile Glu Asp Asp Pro Ser His Pro Glu Tyr Ile Val Thr Arg Arg Gly
210 215 220

Val Gly Tyr Phe Leu Gln Gln His Glu
225 230

<210> 47

<211> 937

<212> DNA

<213> Homo sapiens

<400> 47

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atgccattat ttttacaacc aatttttaaaa acaaaaattat ggggcggtca acgtctaagt 60
gagtttggat atcaattaga caatgataca actgggggaa tgttggtgtg tgtcagcaca 120
tccaaatggt acgagcgaga ttattaatgg accatatcaa ggtcaaacat tagaccgtat 180
ttggtcagaa catcgtgaat tgtttggtga tttcccaagc aaagattttc cgcttctaac 240
taaaatagtg gatgcaagag aatcactttc tattcatgtg caccctgata attcttatgc 300
ttatgagcat gaaaacgggc aatatggcaa atctgaatgt tggtatatta tagatgcaga 360
agaagatgca gaaatagtta tagggacatt agcagagtct agagaagaag ttgcgaatca 420
tgttcaacac ggaacgatag agtcgatact tagatatatt aaagtaaaac ctggagaatt 480
ctattttatt ccagcaggaa cagtwcatac tatttcttca ggaatattag catacgaaac 540
gatgcaatcg tcagacatta catatagact ttatgatttc aatcgtcaag ataatcaata 600
taatgataga ccgttaaata ttgaaaaagc tttagacgtt attcagtaca atgcaccatt 660
acctaattat ttgcctgaaa gcgaaattat tgaaaacat aagtgtacac acattgtatc 720
gaatgatttc tttacattgg ttaaattggga aatttctggc acgttaaatt atatgaagcc 780
tagagagttc tgtttagtta cagtgttgga aggcgaaggg caaatgattg tctatggtga 840
aattttcaaa ctgactactg gtacaaactt tattttgact tctgaagatt tggatagtgt 900
ctttgaaggt gatttcacat tgatgattag ctatgtg 937
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<210> 48

<211> 312

<212> PRT

<213> Homo sapiens

<400> 48

Met Pro Leu Phe Leu Gln Pro Ile Leu Lys Thr Lys Leu Trp Gly Gly
1 5 10 15

Gln Arg Leu Ser Glu Phe Gly Tyr Gln Leu Asp Asn Asp Thr Thr Gly
20 25 30

Glu Cys Trp Cys Val Ser Ala His Pro Asn Gly Thr Ser Glu Ile Ile
35 40 45

Asn Gly Pro Tyr Gln Gly Gln Thr Leu Asp Arg Ile Trp Ser Glu His
50 55 60

Arg Glu Leu Phe Gly Asp Phe Pro Ser Lys Asp Phe Pro Leu Leu Thr
65 70 75 80

Lys Ile Val Asp Ala Arg Glu Ser Leu Ser Ile His Val His Pro Asp
85 90 95

Asn Ser Tyr Ala Tyr Glu His Glu Asn Gly Gln Tyr Gly Lys Ser Glu
100 105 110

Cys Trp Tyr Ile Ile Asp Ala Glu Glu Asp Ala Glu Ile Val Ile Gly
 115 120 125
 Thr Leu Ala Glu Ser Arg Glu Glu Val Ala Asn His Val Gln His Gly
 130 135 140
 Thr Ile Glu Ser Ile Leu Arg Tyr Ile Lys Val Lys Pro Gly Glu Phe
 145 150 155 160
 Tyr Phe Ile Pro Ala Gly Thr Val His Thr Ile Ser Ser Gly Ile Leu
 165 170 175
 Ala Tyr Glu Thr Met Gln Ser Ser Asp Ile Thr Tyr Arg Leu Tyr Asp
 180 185 190
 Phe Asn Arg Gln Asp Asn Gln Tyr Asn Asp Arg Pro Leu Asn Ile Glu
 195 200 205
 Lys Ala Leu Asp Val Ile Gln Tyr Asn Ala Pro Leu Pro Asn Ile Leu
 210 215 220
 Pro Glu Ser Glu Ile Ile Glu Asn His Lys Cys Thr His Ile Val Ser
 225 230 235 240
 Asn Asp Phe Phe Thr Leu Val Lys Trp Glu Ile Ser Gly Thr Leu Asn
 245 250 255
 Tyr Met Lys Pro Arg Glu Phe Cys Leu Val Thr Val Leu Glu Gly Glu
 260 265 270
 Gly Gln Met Ile Val Asp Gly Glu Ile Phe Lys Leu Thr Thr Gly Thr
 275 280 285
 Asn Phe Ile Leu Thr Ser Glu Asp Leu Asp Ser Val Phe Glu Gly Asp
 290 295 300
 Phe Thr Leu Met Ile Ser Tyr Val
 305 310

<210> 49

<211> 837

<212> DNA

<213> Homo sapiens

<400> 49

atggctgtat tatatttagt gggcacacca attggtaatt tagcagatat tacttataga 60
 gcagttgatg tattgaaacg tgttgatatg attgcttgatg aagacactag agtaactagt 120
 aaactgtgta atcattatga tattccaact ccattaaagt catatcacga acataacaag 180
 gataagcaga ctgcttttat cattgaacag ttagaattag gtcttgacgt tgcgctcgta 240
 tctgatgctg gattgccctt aattagtgtat cctggatacg aattagtagt ggcagccaga 300
 gaagctaata ttaaagtaga gactgtgcct ggacctaata ctgggctgac ggctttgatg 360
 gctagtggat taccttcata tgtatataca ttttaggat ttttgccacg aaaagagaaa 420
 gaaaaaagtg ctgtattaga gcaacgtatg catgaaaata gcacattaat tatatacgaa 480
 tcaccgcatc gtgtgacaga tacattaaaa acaattgcaa agatagatgc aacacgacaa 540
 gtatcactag ggcgtgaatt aactaagaag ttcgaacaaa ttgtaactga tgatgtaaca 600
 caattacaag cattgattca gcaaggcgat gtaccattga aaggcgaatt cgttatctta 660
 attgaagggtg ctaaagcgaa caatgagata tctgtggttg atgatttatc tatcaatgag 720
 catgttgatc atttatattca aacttcacag atgaaaccaa aacaagctat taaaaaagtt 780
 gctgaagaac gacaacttaa aacgaatgaa gtatataata tttatcatca aataagt 837

<210> 50
 <211> 279
 <212> PRT
 <213> Homo sapiens

<400> 50

Met Ala Val Leu Tyr Leu Val Gly Thr Pro Ile Gly Asn Leu Ala Asp
 1 5 10 15

Ile Thr Tyr Arg Ala Val Asp Val Leu Lys Arg Val Asp Met Ile Ala
 20 25 30

Cys Glu Asp Thr Arg Val Thr Ser Lys Leu Cys Asn His Tyr Asp Ile
 35 40 45

Pro Thr Pro Leu Lys Ser Tyr His Glu His Asn Lys Asp Lys Gln Thr
 50 55 60

Ala Phe Ile Ile Glu Gln Leu Glu Leu Gly Leu Asp Val Ala Leu Val
 65 70 75 80

Ser Asp Ala Gly Leu Pro Leu Ile Ser Asp Pro Gly Tyr Glu Leu Val
 85 90 95

Val Ala Ala Arg Glu Ala Asn Ile Lys Val Glu Thr Val Pro Gly Pro
 100 105 110

Asn Ala Gly Leu Thr Ala Leu Met Ala Ser Gly Leu Pro Ser Tyr Val
 115 120 125

Tyr Thr Phe Leu Gly Phe Leu Pro Arg Lys Glu Lys Glu Lys Ser Ala
 130 135 140

Val Leu Glu Gln Arg Met His Glu Asn Ser Thr Leu Ile Ile Tyr Glu
 145 150 155 160

Ser Pro His Arg Val Thr Asp Thr Leu Lys Thr Ile Ala Lys Ile Asp
 165 170 175

Ala Thr Arg Gln Val Ser Leu Gly Arg Glu Leu Thr Lys Lys Phe Glu
 180 185 190

Gln Ile Val Thr Asp Asp Val Thr Gln Leu Gln Ala Leu Ile Gln Gln
 195 200 205

Gly Asp Val Pro Leu Lys Gly Glu Phe Val Ile Leu Ile Glu Gly Ala
 210 215 220

Lys Ala Asn Asn Glu Ile Ser Trp Phe Asp Asp Leu Ser Ile Asn Glu
 225 230 235 240

His Val Asp His Tyr Ile Gln Thr Ser Gln Met Lys Pro Lys Gln Ala
 245 250 255

Ile Lys Lys Val Ala Glu Glu Arg Gln Leu Lys Thr Asn Glu Val Tyr
 260 265 270

Asn Ile Tyr His Gln Ile Ser
 275

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<210> 51
 <211> 624
 <212> DNA
 <213> Homo sapiens

<400> 51
 atgaaatttg gaaaaacaat cgcagtagta ttagcatcta gtgtcttgct tgcaggatgt 60
 actacggata aaaaagaaat taaggcatat ttaaagcaag tggataaaat taaagatgat 120
 gaagaaccaa ttaaaactgt tggtaagaaa attgctgaat tagatgagaa aaagaaaaaa 180
 ttaactgaag atgtcaatag taaagatata gcagttcgcg gtaaagcagt aaaggattta 240
 attaaaaatg ccgatgatcg tctaaaggaa tttgaaaaag aagaagacgc aattaagaag 300
 tctgaacaag actttaagaa agcaaaaagt cacgttgata acattgataa tgatgttaaa 360
 cgtaaagaag taaaacaatt agatgatgta ttaaaagaaa aatataagtt acacagtgat 420
 tacgcgaaaag catataaaaa ggctgtaaac tcagagaaaa cattatttaa atattttaa 480
 caaaatgacg cgacacaaca aggtgttaac gaaaaatcaw aagcaataga acagaactat 540
 aaaaagttaa aagaagtatc agataagtat acaaaagtac taaataaggt tggtaaagaa 600
 aagcaagacg ttgatcaatt taaa 624

<210> 52
 <211> 208
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (174)..(174)
 <223> Xaa equals any amino acid

<400> 52
 Met Lys Phe Gly Lys Thr Ile Ala Val Val Leu Ala Ser Ser Val Leu
 1 5 10 15
 Leu Ala Gly Cys Thr Thr Asp Lys Lys Glu Ile Lys Ala Tyr Leu Lys
 20 25 30
 Gln Val Asp Lys Ile Lys Asp Asp Glu Glu Pro Ile Lys Thr Val Gly
 35 40 45
 Lys Lys Ile Ala Glu Leu Asp Glu Lys Lys Lys Lys Leu Thr Glu Asp
 50 55 60
 Val Asn Ser Lys Asp Thr Ala Val Arg Gly Lys Ala Val Lys Asp Leu
 65 70 75 80
 Ile Lys Asn Ala Asp Asp Arg Leu Lys Glu Phe Glu Lys Glu Glu Asp
 85 90 95
 Ala Ile Lys Lys Ser Glu Gln Asp Phe Lys Lys Ala Lys Ser His Val
 100 105 110
 Asp Asn Ile Asp Asn Asp Val Lys Arg Lys Glu Val Lys Gln Leu Asp
 115 120 125
 Asp Val Leu Lys Glu Lys Tyr Lys Leu His Ser Asp Tyr Ala Lys Ala
 130 135 140
 Tyr Lys Lys Ala Val Asn Ser Glu Lys Thr Leu Phe Lys Tyr Leu Asn
 145 150 155 160

65		70		75		80
Gly Phe Pro Ser Ile Pro Leu Lys Ile Met Phe Pro Gln Leu Lys Val						
	85			90		95
Thr Ile Val Asp Ser Leu Asn Lys Arg Ile Gln Phe Leu Asn His Leu						
	100		105		110	
Ala Ser Glu Leu Gln Leu Gln Asp Val Ser Phe Ile His Asp Arg Ala						
	115		120		125	
Glu Thr Phe Gly Lys Gly Val Tyr Arg Glu Ser Tyr Asp Val Val Thr						
	130		135		140	
Ala Arg Ala Val Ala Arg Leu Ser Val Leu Ser Glu Leu Cys Leu Pro						
	145		150		155	160
Leu Val Lys Lys Gly Gly Gln Phe Val Ala Leu Lys Ser Ser Lys Gly						
		165		170		175
Glu Glu Glu Leu Glu Glu Ala Lys Phe Ala Ile Ser Val Leu Gly Gly						
		180		185		190
Asn Val Thr Glu Thr His Thr Phe Glu Leu Pro Glu Asp Ala Gly Glu						
	195		200		205	
Arg Gln Met Phe Ile Ile Asp Lys Lys Arg Gln Thr Pro Lys Lys Tyr						
	210		215		220	
Pro Arg Lys Pro Gly Thr Pro Asn Lys Thr Pro Leu Leu Glu Lys						
	225		230		235	

<210> 57

<211> 1191

<212> DNA

<213> Homo sapiens

<400> 57

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gggatata	aatttttaaa	gacacaagat	aaagtttatg	caagaacggt	agatcatcca	120
gttatagaat	cattgcaaga	tgaattaaca	tttcagagtt	ttgaccatgt	ttatgaagca	180
cataaccaat	ttgaagatgt	ctatatgtat	attgtggcgc	aattgggtga	agctgctaata	240
gaaaaagata	ttgtctatgc	ggttccgggt	catcctagag	ttgctgagac	aactacagtg	300
aaattactgg	ctttagcaaa	ggacaatact	gatatagatg	tgaaagtgtt	aggtgggaaa	360
agctttattg	atgatgtgtt	tgaagcagtt	aatgtagatc	caaagtgtgg	cttcacactg	420
ttagatgcga	catcattaca	agaagtaaca	cttaatgtta	gaacgcatac	attgattacg	480
caagtttata	gtgcaatggg	tgctgctaata	ttgaaaatca	ctttaatgga	acgatatacct	540
gatgattacc	ctgttcaaat	tgctactggg	gcacgaagcg	atgggtgcgga	taacgtttgtg	600
acatgcccac	tatatgaatt	ggatcatgat	gaaaatgcat	tcaataattt	gacgagtgtg	660
ttcgtaccaa	aaatcataac	atcgacatat	ttgtatcatg	actttgattt	tgcaacggaa	720
gtgattgata	ctttagtgtg	tgaagataaa	ggttgtccat	gggataaagt	gcaaacgcat	780
gmaacgctaa	agcggttatt	acttgaagaa	acatttgaat	tgttcgaagc	tattgacaat	840
gaagatgatt	ggcatatgat	tgaagaacta	ggagataatt	tattacaagt	gttattgcat	900
actagtattg	gtaaaaaaga	agggtatatc	gacattaaag	aagtgtattac	aagtcttaaat	960
gctaaaatga	ttcgtagaca	cccacacata	tttggtgatg	ccaatgctga	aactatcgat	1020
gacttaaaag	aaatttggtc	taaggcgaaa	gatgctgaag	gtaaacagcc	aagagttaaa	1080
tttgaaaaag	tatttgcaga	gcatttttta	aattttatatg	agaagacgaa	ggataagtca	1140
tttgatgagg	ccgcgttaaa	gcagtgggcta	gaaaaagggg	agagtaatac	a	1191

<210> 58
 <211> 397
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (261)..(261)
 <223> Xaa equals any amino acid

<400> 58

Met Ala His Thr Ile Thr Ile Val Gly Leu Gly Asn Tyr Gly Ile Asp
 1 5 10 15

Asp Leu Pro Leu Gly Ile Tyr Lys Phe Leu Lys Thr Gln Asp Lys Val
 20 25 30

Tyr Ala Arg Thr Leu Asp His Pro Val Ile Glu Ser Leu Gln Asp Glu
 35 40 45

Leu Thr Phe Gln Ser Phe Asp His Val Tyr Glu Ala His Asn Gln Phe
 50 55 60

Glu Asp Val Tyr Ile Asp Ile Val Ala Gln Leu Val Glu Ala Ala Asn
 65 70 75 80

Glu Lys Asp Ile Val Tyr Ala Val Pro Gly His Pro Arg Val Ala Glu
 85 90 95

Thr Thr Thr Val Lys Leu Leu Ala Leu Ala Lys Asp Asn Thr Asp Ile
 100 105 110

Asp Val Lys Val Leu Gly Gly Lys Ser Phe Ile Asp Asp Val Phe Glu
 115 120 125

Ala Val Asn Val Asp Pro Asn Asp Gly Phe Thr Leu Leu Asp Ala Thr
 130 135 140

Ser Leu Gln Glu Val Thr Leu Asn Val Arg Thr His Thr Leu Ile Thr
 145 150 155 160

Gln Val Tyr Ser Ala Met Val Ala Ala Asn Leu Lys Ile Thr Leu Met
 165 170 175

Glu Arg Tyr Pro Asp Asp Tyr Pro Val Gln Ile Val Thr Gly Ala Arg
 180 185 190

Ser Asp Gly Ala Asp Asn Val Val Thr Cys Pro Leu Tyr Glu Leu Asp
 195 200 205

His Asp Glu Asn Ala Phe Asn Asn Leu Thr Ser Val Phe Val Pro Lys
 210 215 220

Ile Ile Thr Ser Thr Tyr Leu Tyr His Asp Phe Asp Phe Ala Thr Glu
 225 230 235 240

Val Ile Asp Thr Leu Val Asp Glu Asp Lys Gly Cys Pro Trp Asp Lys
 245 250 255

Val Gln Thr His Xaa Thr Leu Lys Arg Tyr Leu Leu Glu Glu Thr Phe

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260 265 270

Glu Leu Phe Glu Ala Ile Asp Asn Glu Asp Asp Trp His Met Ile Glu
275 280 285

Glu Leu Gly Asp Ile Leu Leu Gln Val Leu Leu His Thr Ser Ile Gly
290 295 300

Lys Lys Glu Gly Tyr Ile Asp Ile Lys Glu Val Ile Thr Ser Leu Asn
305 310 315 320

Ala Lys Met Ile Arg Arg His Pro His Ile Phe Gly Asp Ala Asn Ala
325 330 335

Glu Thr Ile Asp Asp Leu Lys Glu Ile Trp Ser Lys Ala Lys Asp Ala
340 345 350

Glu Gly Lys Gln Pro Arg Val Lys Phe Glu Lys Val Phe Ala Glu His
355 360 365

Phe Leu Asn Leu Tyr Glu Lys Thr Lys Asp Lys Ser Phe Asp Glu Ala
370 375 380

Ala Leu Lys Gln Trp Leu Glu Lys Gly Glu Ser Asn Thr
385 390 395

<210> 59
<211> 804
<212> DNA
<213> Homo sapiens

<400> 59
aatgtaaatc attctaataa aacgacaact gtgtcttctt tacttgtata tgttacatat 60
attcacgata gagaggataa gaaaatggct caaatttcta aatataaacg tgtagttttg 120
aaactaagtg gtgaagcggt agctggagaa aaaggatttg gcataaatcc agtaattatt 180
aaaagtgttg ctgagcaagt ggctgaagt gctaaaatgg actgtgaaat cgcagtaatc 240
gttggtggcg gaaacatttg gagaggtaaa acaggtagtg acttaggtat ggaccgtgga 300
actgctgatt acatgggtat gcttgcaact gtaatgaatg ccttagcatt acaagatagt 360
ttagaacaat tggattgtga tacacgagta ttaacatcta ttgaaatgaa gcaagtggct 420
gaaccttata ttcgtcgtcg tgcaattaga cacttagaaa agaaacgcgt agttattttt 480
gctgcaggta ttggaaaccc atacttctct acagatacta cagcggcatt acgtgctgca 540
gaagttgaag cagatgttat tttaatgggc aaaaataatg tagatggtgt atattctgca 600
gatacctaaag taaacaaaaga tgcggtaaaa tatgaacatt taacgcatat tcaaatgctt 660
caagaagggt tacaagtaat ggattcaaca gcatcctcat tctgtatgga taataacatt 720
ccgttaactg ttttctctat tatggaagaa ggaaatatta aacgtgctgt tatgggtgaa 780
aagataggta cgtaattac aaaa 804

<210> 60
<211> 268
<212> PRT
<213> Homo sapiens

<400> 60
Asn Val Asn His Ser Asn Lys Thr Thr Thr Val Ser Ser Leu Leu Val
1 5 10 15
Tyr Val Thr Tyr Ile His Asp Arg Glu Asp Lys Lys Met Ala Gln Ile
20 25 30

Ser Lys Tyr Lys Arg Val Val Leu Lys Leu Ser Gly Glu Ala Leu Ala
 35 40 45
 Gly Glu Lys Gly Phe Gly Ile Asn Pro Val Ile Ile Lys Ser Val Ala
 50 55 60
 Glu Gln Val Ala Glu Val Ala Lys Met Asp Cys Glu Ile Ala Val Ile
 65 70 75 80
 Val Gly Gly Gly Asn Ile Trp Arg Gly Lys Thr Gly Ser Asp Leu Gly
 85 90 95
 Met Asp Arg Gly Thr Ala Asp Tyr Met Gly Met Leu Ala Thr Val Met
 100 105 110
 Asn Ala Leu Ala Leu Gln Asp Ser Leu Glu Gln Leu Asp Cys Asp Thr
 115 120 125
 Arg Val Leu Thr Ser Ile Glu Met Lys Gln Val Ala Glu Pro Tyr Ile
 130 135 140
 Arg Arg Arg Ala Ile Arg His Leu Glu Lys Lys Arg Val Val Ile Phe
 145 150 155 160
 Ala Ala Gly Ile Gly Asn Pro Tyr Phe Ser Thr Asp Thr Thr Ala Ala
 165 170 175
 Leu Arg Ala Ala Glu Val Glu Ala Asp Val Ile Leu Met Gly Lys Asn
 180 185 190
 Asn Val Asp Gly Val Tyr Ser Ala Asp Pro Lys Val Asn Lys Asp Ala
 195 200 205
 Val Lys Tyr Glu His Leu Thr His Ile Gln Met Leu Gln Glu Gly Leu
 210 215 220
 Gln Val Met Asp Ser Thr Ala Ser Ser Phe Cys Met Asp Asn Asn Ile
 225 230 235 240
 Pro Leu Thr Val Phe Ser Ile Met Glu Glu Gly Asn Ile Lys Arg Ala
 245 250 255
 Val Met Gly Glu Lys Ile Gly Thr Leu Ile Thr Lys
 260 265

<210> 61

<211> 1068

<212> DNA

<213> Homo sapiens

<400> 61

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 atttatatta ccaatgatgg tgattggaga aagcaaaaata atattacagc tgaaattaaa 180
 tctactgatg agcttcattt agaaaatgga gaggcgcttg agatttcaca gctattgaaa 240
 gaaagtagtt caggacaacc atacgatgca gtattcccat tattacatgg tcctaattgg 300
 gaagatggca cgattcaagg gcttttttgaa gttttggatg taccatatgt aggaaatgg 360
 gtattgtcag ctgcaagttc tatggacaaa cttgtaatga aacaattatt tgaacatcga 420
 gggttaccac agttacctta tattagtttc ttacgttctg aatatgaaaa atatgaacat 480

aacatttttaa aattagtaaa tgataaatta aattaccag tctttgttaa acctgctaac 540
 ttaggggtcaa gtgtaggtat cagtaaagt aataatgaag cggaacttaa agaaggtatt 600
 aaagaagcat tccaatttga ccgtaagctt gttatagaac aaggcgtaa cgcacgtgaa 660
 attgaagtag cagtttttagg aaatgactat cctgaagcga catggccagg tgaagtcgta 720
 aaagatgtcg cgttttacga ttacaaatca aaatataaag atggtaaggt tcaattacaa 780
 attccagctg acttagacga agatgttcaa ttaacgctta gaaatatggc attagaggca 840
 ttcaaagcga cagattgttc tggtttagtc cgtgctgatt tctttgtaac agaagacaac 900
 caaatatata ttaatgaaac aaatgcaatg cctggattta cggctttcag tatgtatcca 960
 aagttatggg aaaatatggg cttatcttat ccagaattga ttacaaaact tatcgagctt 1020
 gctaaagaac gtcaccagga taaacagaaa aataaataca aaattgac 1068

<210> 62
 <211> 356
 <212> PRT
 <213> Homo sapiens

<400> 62
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 20 25 30
 Lys Asp Lys Tyr His Val Asp Ile Ile Tyr Ile Thr Asn Asp Gly Asp
 35 40 45
 Trp Arg Lys Gln Asn Asn Ile Thr Ala Glu Ile Lys Ser Thr Asp Glu
 50 55 60
 Leu His Leu Glu Asn Gly Glu Ala Leu Glu Ile Ser Gln Leu Leu Lys
 65 70 75 80
 Glu Ser Ser Ser Gly Gln Pro Tyr Asp Ala Val Phe Pro Leu Leu His
 85 90 95
 Gly Pro Asn Gly Glu Asp Gly Thr Ile Gln Gly Leu Phe Glu Val Leu
 100 105 110
 Asp Val Pro Tyr Val Gly Asn Gly Val Leu Ser Ala Ala Ser Ser Met
 115 120 125
 Asp Lys Leu Val Met Lys Gln Leu Phe Glu His Arg Gly Leu Pro Gln
 130 135 140
 Leu Pro Tyr Ile Ser Phe Leu Arg Ser Glu Tyr Glu Lys Tyr Glu His
 145 150 155 160
 Asn Ile Leu Lys Leu Val Asn Asp Lys Leu Asn Tyr Pro Val Phe Val
 165 170 175
 Lys Pro Ala Asn Leu Gly Ser Ser Val Gly Ile Ser Lys Cys Asn Asn
 180 185 190
 Glu Ala Glu Leu Lys Glu Gly Ile Lys Glu Ala Phe Gln Phe Asp Arg
 195 200 205
 Lys Leu Val Ile Glu Gln Gly Val Asn Ala Arg Glu Ile Glu Val Ala
 210 215 220
 Val Leu Gly Asn Asp Tyr Pro Glu Ala Thr Trp Pro Gly Glu Val Val

225					230					235					240		
Lys	Asp	Val	Ala	Phe	Tyr	Asp	Tyr	Lys	Ser	Lys	Tyr	Lys	Asp	Gly	Lys		
				245					250					255			
Val	Gln	Leu	Gln	Ile	Pro	Ala	Asp	Leu	Asp	Glu	Asp	Val	Gln	Leu	Thr		
				260					265					270			
Leu	Arg	Asn	Met	Ala	Leu	Glu	Ala	Phe	Lys	Ala	Thr	Asp	Cys	Ser	Gly		
				275					280					285			
Leu	Val	Arg	Ala	Asp	Phe	Phe	Val	Thr	Glu	Asp	Asn	Gln	Ile	Tyr	Ile		
				290					295					300			
Asn	Glu	Thr	Asn	Ala	Met	Pro	Gly	Phe	Thr	Ala	Phe	Ser	Met	Tyr	Pro		
				305					310					315			
Lys	Leu	Trp	Glu	Asn	Met	Gly	Leu	Ser	Tyr	Pro	Glu	Leu	Ile	Thr	Lys		
				325					330					335			
Leu	Ile	Glu	Leu	Ala	Lys	Glu	Arg	His	Gln	Asp	Lys	Gln	Lys	Asn	Lys		
				340					345					350			
Tyr	Lys	Ile	Asp														
				355													

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<210> 63
<211> 861
<212> DNA
<213> Homo sapiens
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<210> 64
<211> 287
<212> PRT
<213> Homo sapiens
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Ser	Met	Leu	Tyr	Ser	Leu	Asn	Ala	Gly	Gly	Lys	Arg	Ile	Arg	Pro	Val
		35					40					45			
Leu	Leu	Leu	Leu	Thr	Leu	Asp	Ser	Leu	Asn	Thr	Glu	Tyr	Glu	Leu	Gly
	50					55					60				
Met	Lys	Ser	Ala	Ile	Ala	Leu	Glu	Met	Ile	His	Thr	Tyr	Ser	Leu	Ile
65					70					75					80
His	Asp	Asp	Leu	Pro	Ala	Met	Asp	Asn	Asp	Asp	Tyr	Arg	Arg	Gly	Lys
				85					90					95	
Leu	Thr	Asn	His	Lys	Val	Tyr	Gly	Glu	Trp	Thr	Ala	Ile	Leu	Ala	Gly
			100					105					110		
Asp	Ala	Leu	Leu	Thr	Lys	Ala	Phe	Glu	Leu	Ile	Ser	Ser	Asp	Asp	Arg
		115					120					125			
Leu	Thr	Asp	Glu	Val	Lys	Ile	Lys	Val	Leu	Gln	Arg	Leu	Ser	Ile	Ala
	130					135					140				
Ser	Gly	His	Val	Gly	Met	Val	Gly	Gly	Gln	Met	Leu	Asp	Met	Gln	Ser
145					150				155						160
Glu	Gly	Gln	Pro	Ile	Asp	Leu	Glu	Thr	Leu	Glu	Met	Ile	His	Lys	Thr
				165					170					175	
Lys	Thr	Gly	Ala	Leu	Leu	Thr	Phe	Ala	Val	Met	Ser	Ala	Ala	Asp	Ile
			180					185					190		
Ala	Asn	Val	Asp	Asp	Thr	Thr	Lys	Glu	His	Leu	Glu	Ser	Tyr	Ser	Tyr
		195					200					205			
His	Leu	Gly	Met	Met	Phe	Gln	Ile	Lys	Asp	Asp	Leu	Leu	Asp	Cys	Tyr
	210					215					220				
Gly	Asp	Glu	Ala	Lys	Leu	Gly	Lys	Lys	Val	Gly	Ser	Asp	Leu	Glu	Asn
225					230					235					240
Asn	Lys	Ser	Thr	Tyr	Val	Ser	Leu	Leu	Gly	Lys	Asp	Gly	Ala	Glu	Asp
				245					250					255	
Lys	Leu	Thr	Tyr	His	Arg	Asp	Ala	Ala	Val	Asp	Glu	Leu	Thr	Gln	Ile
			260					265					270		
Asp	Glu	Gln	Phe	Asn	Thr	Lys	His	Leu	Leu	Glu	Ile	Val	Asp	Leu	
		275					280					285			

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<210> 65
<211> 819
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (811)..(811)
<223> n equals a, t, g, or c
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 gttgcagtcg cattagagtt aattcatatg gcaacacttg ttcattgatga cgttattgat 120
 aaaagcgaca agcgtcgagg caagttaacc atatcaaaga aatgggatca gacaactgct 180
 attttaactg ggaatttttt attggcatta ggacttgaac acttaatggc cgtaaagat 240
 aatcgtgtac atcaattgat atctgaatct atcgttgatg tttgtagagg ggaacttttc 300
 caatttcaag accaatttaa cagtcaacag acaattatta attatttacg acgtatcaat 360
 cgcaaaacag cactgttaat tcaaatatca actgaagttg gtgcaattac ttctcaatct 420
 gataaagaga ctgtacgaaa attgaaaatg attggtcatt atataggtat gagcttccaa 480
 atcattgatg atgtattaga cttcacaagt accgaaaaga aattaggtaa gccggtcgga 540
 agtgatttgc ttaatgggtca tattacgtta ccgattttat tagaaatgcg taaaaatcca 600
 gacttcaa atgaaaatcga acagttacgt cgtgatagtg aacgcaaaga atttgaagaa 660
 tgtatccaaa tcattagaaa atctgacagc atcgatgagg ctaaggcagt aagttcgaag 720
 tatttaagta aagcyttgaa tttgatttcy gagttaccag atggacatcc gagatcacta 780
 cytttaagtt tgacgaaaaa aatgggttca anaaacacg 819

<210> 66
 <211> 273
 <212> PRT
 <213> Homo sapiens

<220>
 <221> MISC_FEATURE
 <222> (261)..(261)
 <223> Xaa equals any amino acid

<220>
 <221> MISC_FEATURE
 <222> (271)..(271)
 <223> Xaa equals any amino acid

<400> 66
 Phe Val Ile Leu Ser Ser Gln Phe Gly Lys Asp Glu Gln Thr Ser Glu
 1 5 10 15
 Gln Thr Tyr Gln Val Ala Val Ala Leu Glu Leu Ile His Met Ala Thr
 20 25 30
 Leu Val His Asp Asp Val Ile Asp Lys Ser Asp Lys Arg Arg Gly Lys
 35 40 45
 Leu Thr Ile Ser Lys Lys Trp Asp Gln Thr Thr Ala Ile Leu Thr Gly
 50 55 60
 Asn Phe Leu Leu Ala Leu Gly Leu Glu His Leu Met Ala Val Lys Asp
 65 70 75 80
 Asn Arg Val His Gln Leu Ile Ser Glu Ser Ile Val Asp Val Cys Arg
 85 90 95
 Gly Glu Leu Phe Gln Phe Gln Asp Gln Phe Asn Ser Gln Gln Thr Ile
 100 105 110
 Ile Asn Tyr Leu Arg Arg Ile Asn Arg Lys Thr Ala Leu Leu Ile Gln
 115 120 125
 Ile Ser Thr Glu Val Gly Ala Ile Thr Ser Gln Ser Asp Lys Glu Thr
 130 135 140

Val Arg Lys Leu Lys Met Ile Gly His Tyr Ile Gly Met Ser Phe Gln
145 150 155 160

Ile Ile Asp Asp Val Leu Asp Phe Thr Ser Thr Glu Lys Lys Leu Gly
165 170 175

Lys Pro Val Gly Ser Asp Leu Leu Asn Gly His Ile Thr Leu Pro Ile
180 185 190

Leu Leu Glu Met Arg Lys Asn Pro Asp Phe Lys Leu Lys Ile Glu Gln
195 200 205

Leu Arg Arg Asp Ser Glu Arg Lys Glu Phe Glu Glu Cys Ile Gln Ile
210 215 220

Ile Arg Lys Ser Asp Ser Ile Asp Glu Ala Lys Ala Val Ser Ser Lys
225 230 235 240

Tyr Leu Ser Lys Ala Leu Asn Leu Ile Ser Glu Leu Pro Asp Gly His
245 250 255

Pro Arg Ser Leu Xaa Leu Ser Leu Thr Lys Lys Met Gly Ser Xaa Asn
260 265 270

Thr

<210> 67

<211> 504

<212> DNA

<213> Homo sapiens

<400> 67

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gaaaaaaatg tcaaagttga aacaattgga ttactgata agttgccaaa atcaacgata 120
gaagcaatta ataatgcyma agaaaagaca gctaataata ccggcttaaa attaataatt 180
gcaattaatt atggtggcag agcagaactt gttcatagta ttaaaaatat gtttgacgag 240
cttcatcaac aaggtttaaa tagtgatata atagatgaaa catatataaa caatcattta 300
atgacaaaag actatcctga tccagagttg ttaattcgta cttcaggaga acaaagaata 360
agtaatttct tgatttggca agtttcgtat agtgaattta tctttaatca aaaattatgg 420
cctgactttg acgaagatga attaattaaa tgtataaaaa tttatcagtc acgtcaaaga 480
cgctttggcg gattgagtga ggag 504

<210> 68

<211> 168

<212> PRT

<213> Homo sapiens

<220>

<221> MISC_FEATURE

<222> (47)..(47)

<223> Xaa equals any amino acid

<400> 68

Val Asn Tyr Ile Met Asn Leu Pro Val Asn Phe Leu Lys Thr Phe Leu
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Pro Glu Leu Ile Glu Lys Asn Val Lys Val Glu Thr Ile Gly Phe Thr
20 25 30

ttataaatcg aatgacgatt cgtattaaag ataatggcat tggtattcct atcaataaag 1620
 tcgataagat attcgaccga ttctatcgtag tagataaggc acgtacgcgt aaaatgggtg 1680
 gtactggatt aggactagcc atttcgaaaag agattgtgga agcgcacaat ggctgtattt 1740
 gggcaaacag tgtagaaggt caagggtacat ctatctttat cacacttcca tgtgaagtca 1800
 ttgaagacgg tgattgggat gaa 1823

<210> 70
 <211> 608
 <212> PRT
 <213> Homo sapiens

<400> 70
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 1 5 10 15
 Val Tyr Val Leu Leu Ile Ile Ile Gly Met Gln Ile Ile Gly Leu Tyr
 20 25 30
 Phe Thr Asn Asn Leu Glu Lys Glu Leu Leu Asp Asn Phe Lys Lys Asn
 35 40 45
 Ile Thr Gln Tyr Ala Lys Gln Leu Glu Ile Ser Ile Glu Lys Val Tyr
 50 55 60
 Asp Glu Lys Gly Ser Val Asn Ala Gln Lys Asp Ile Gln Asn Leu Leu
 65 70 75 80
 Ser Glu Tyr Ala Asn Arg Gln Glu Ile Gly Glu Ile Arg Phe Ile Asp
 85 90 95
 Lys Asp Gln Ile Ile Ile Ala Thr Thr Lys Gln Ser Asn Arg Ser Leu
 100 105 110
 Ile Asn Gln Lys Ala Asn Asp Ser Ser Val Gln Lys Ala Leu Ser Leu
 115 120 125
 Gly Gln Ser Asn Asp His Leu Ile Leu Lys Asp Tyr Gly Gly Gly Lys
 130 135 140
 Asp Arg Val Trp Val Tyr Asn Ile Pro Val Lys Val Asp Lys Lys Val
 145 150 155 160
 Ile Gly Asn Ile Tyr Ile Glu Ser Lys Ile Asn Asp Val Tyr Asn Gln
 165 170 175
 Leu Asn Asn Ile Asn Gln Ile Phe Ile Val Gly Thr Ala Ile Ser Leu
 180 185 190
 Leu Ile Thr Val Ile Leu Gly Phe Phe Ile Ala Arg Thr Ile Thr Lys
 195 200 205
 Pro Ile Thr Asp Met Arg Asn Gln Thr Val Glu Met Ser Arg Gly Asn
 210 215 220
 Tyr Thr Gln Arg Val Lys Ile Tyr Gly Asn Asp Glu Ile Gly Glu Leu
 225 230 235 240
 Ala Leu Ala Phe Asn Asn Leu Ser Lys Arg Val Gln Glu Ala Gln Ala
 245 250 255

Asn	Thr	Glu	Ser	Glu	Lys	Arg	Arg	Leu	Asp	Ser	Val	Ile	Thr	His	Met	
			260					265					270			
Ser	Asp	Gly	Ile	Ile	Ala	Thr	Asp	Arg	Arg	Gly	Arg	Ile	Arg	Ile	Val	
		275					280					285				
Asn	Asp	Met	Ala	Leu	Lys	Met	Leu	Gly	Met	Ala	Lys	Glu	Asp	Ile	Ile	
	290					295					300					
Gly	Tyr	Tyr	Met	Leu	Ser	Val	Leu	Ser	Leu	Glu	Asp	Glu	Phe	Lys	Leu	
305					310					315					320	
Glu	Glu	Ile	Gln	Glu	Asn	Asn	Asp	Ser	Phe	Leu	Leu	Asp	Leu	Asn	Glu	
				325					330					335		
Glu	Glu	Gly	Leu	Ile	Ala	Arg	Val	Asn	Phe	Ser	Thr	Ile	Val	Gln	Glu	
			340					345					350			
Thr	Gly	Phe	Val	Thr	Gly	Tyr	Ile	Ala	Val	Leu	His	Asp	Val	Thr	Glu	
		355					360					365				
Gln	Gln	Gln	Val	Glu	Arg	Glu	Arg	Arg	Glu	Phe	Val	Ala	Asn	Val	Ser	
	370					375					380					
His	Glu	Leu	Arg	Thr	Pro	Leu	Thr	Ser	Met	Asn	Ser	Tyr	Ile	Glu	Ala	
385					390					395					400	
Leu	Glu	Glu	Gly	Ala	Trp	Lys	Asp	Glu	Glu	Leu	Ala	Pro	Gln	Phe	Leu	
				405					410					415		
Ser	Val	Thr	Arg	Glu	Glu	Thr	Glu	Arg	Met	Ile	Arg	Leu	Val	Asn	Asp	
			420					425					430			
Leu	Leu	Gln	Leu	Ser	Lys	Met	Asp	Asn	Glu	Ser	Asp	Gln	Ile	Asn	Lys	
		435					440					445				
Glu	Ile	Ile	Asp	Phe	Asn	Met	Phe	Ile	Asn	Lys	Ile	Ile	Asn	Arg	His	
	450					455					460					
Glu	Met	Ser	Ala	Lys	Asp	Thr	Thr	Phe	Ile	Arg	Asp	Ile	Pro	Lys	Lys	
465					470					475					480	
Thr	Ile	Phe	Thr	Glu	Phe	Asp	Pro	Asp	Lys	Met	Thr	Gln	Val	Phe	Asp	
				485					490					495		
Asn	Val	Ile	Thr	Asn	Ala	Met	Lys	Tyr	Ser	Arg	Gly	Asp	Lys	Arg	Val	
			500					505					510			
Glu	Phe	His	Val	Lys	Gln	Asn	Pro	Leu	Tyr	Asn	Arg	Met	Thr	Ile	Arg	
			515				520					525				
Ile	Lys	Asp	Asn	Gly	Ile	Gly	Ile	Pro	Ile	Asn	Lys	Val	Asp	Lys	Ile	
	530					535					540					
Phe	Asp	Arg	Phe	Tyr	Arg	Val	Asp	Lys	Ala	Arg	Thr	Arg	Lys	Met	Gly	
545					550					555					560	
Gly	Thr	Gly	Leu	Gly	Leu	Ala	Ile	Ser	Lys	Glu	Ile	Val	Glu	Ala	His	
				565					570					575		

Asn Gly Arg Ile Trp Ala Asn Ser Val Glu Gly Gln Gly Thr Ser Ile
580 585 590

Phe Ile Thr Leu Pro Cys Glu Val Ile Glu Asp Gly Asp Trp Asp Glu
595 600 605

<210> 71
<211> 2232
<212> DNA
<213> Homo sapiens

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caacaaccag aacgaggaaa gatatatgat cgtaattggt aagtgcctagc agaagatgta 240
gaaagatata aacttggttg agtaatatag aaaaaggcga gtgccaattc taaaaaacct 300
aggcatgtag ttgataaaaa agagactgca aagaaattat ctacagtcac taatatgaag 360
ccagaggaaa ttgaaaagag acttagtcaa aagaaagctt tccaaattga atttggacgc 420
aaaggaacaa atttaacgta tcaggacaaa ttgaaaatag agaaaatgaa tttgcctggg 480
atttctttat tgcctgaaac agaacgcttt tatccaaatg gcaattttgc atcacactta 540
attggttagag ctcaagaaaa tccggatact ggtgaactta aaggtgcact tggagttgaa 600
aagattttttg atagttattt aagtggatct aaaggatcat tgagatatat tcatgatatt 660
tggggatata tcgcaccaa tactaaaaaa gagaagcagc ctaaacgtgg tgatgatgtc 720
catttaacaa tcgattcaaa tattcaagta tttggtgaag aagctttaga tggcatgggt 780
gaaagatacc agccgaaaga tttatttgcg gttgtcatgg atgccaaaac tggagaaatt 840
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tgggcacaaatg acctttatca aaacacatac gagcctggat caacatttaa atcatatggg 960
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gggtgcagaca aaatgaaatc ttggtatgaa cgatttggat ttggaaaatc aactaaagg 1200
atgtttgatg gagaagcacc tgggtcaaatt ggatggagta atgagttgca aaaaaaacg 1260
tcatcatttg gtcaatcgac aacagtaaca cctgttcaaa tgttacaagc gcaatcagcg 1320
ttctttaatg atggtaatat gttaaaacca tgggttgtga atagcgttga aaatcctgtt 1380
agtaaaagac aattttataa agggcaaaaa caaatcgag gcaaaccaat aacaaaagat 1440
actgctgaaa aagttgaaa gcaattggat ttagttgtga atagtaagaa gagtacgct 1500
gcaaactatc gtattgatgg ttatgaggtc gaaggtaaga ctggtacagc acaagtcgct 1560
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gacgcgccga agaaaaatcc taaagttatt gtatcgctg gtatgagctt ggcacaaaaa 1680
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aaagtgccag atgttgaagg tcaagacaaa caaaaagcta ttgataatgt gagtgcacaa 1860
tcattagaac cagttactat tggttctggc acacaaataa aagcacaatc tataaaagca 1920
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cttactgaaa aagataaaat agacgtagaa ttttcatcag agaattgtag cagcaattcg 2160
acgaataaatt ctgattcaaa ttcagatgat aagaagaaat ctgacagtaa aactgacaag 2220
gataagtcgg ac 2232

<210> 72
<211> 744
<212> PRT
<213> Homo sapiens

<400> 72

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Leu Leu Val Gly Leu Phe Gly Leu Leu Phe Phe Ile Leu Val Leu Arg
20 25 30

Ile Ser Tyr Ile Met Ile Thr Gly His Ser Asn Gly Gln Asp Leu Val
35 40 45

Met Lys Ala Asn Glu Lys Tyr Leu Val Lys Asn Ala Gln Gln Pro Glu
50 55 60

Arg Gly Lys Ile Tyr Asp Arg Asn Gly Lys Val Leu Ala Glu Asp Val
65 70 75 80

Glu Arg Tyr Lys Leu Val Ala Val Ile Asp Lys Lys Ala Ser Ala Asn
85 90 95

Ser Lys Lys Pro Arg His Val Val Asp Lys Lys Glu Thr Ala Lys Lys
100 105 110

Leu Ser Thr Val Ile Asn Met Lys Pro Glu Glu Ile Glu Lys Arg Leu
115 120 125

Ser Gln Lys Lys Ala Phe Gln Ile Glu Phe Gly Arg Lys Gly Thr Asn
130 135 140

Leu Thr Tyr Gln Asp Lys Leu Lys Ile Glu Lys Met Asn Leu Pro Gly
145 150 155 160

Ile Ser Leu Leu Pro Glu Thr Glu Arg Phe Tyr Pro Asn Gly Asn Phe
165 170 175

Ala Ser His Leu Ile Gly Arg Ala Gln Lys Asn Pro Asp Thr Gly Glu
180 185 190

Leu Lys Gly Ala Leu Gly Val Glu Lys Ile Phe Asp Ser Tyr Leu Ser
195 200 205

Gly Ser Lys Gly Ser Leu Arg Tyr Ile His Asp Ile Trp Gly Tyr Ile
210 215 220

Ala Pro Asn Thr Lys Lys Glu Lys Gln Pro Lys Arg Gly Asp Asp Val
225 230 235 240

His Leu Thr Ile Asp Ser Asn Ile Gln Val Phe Val Glu Glu Ala Leu
245 250 255

Asp Gly Met Val Glu Arg Tyr Gln Pro Lys Asp Leu Phe Ala Val Val
260 265 270

Met Asp Ala Lys Thr Gly Glu Ile Leu Ala Tyr Ser Gln Arg Pro Thr
275 280 285

Phe Asn Pro Glu Thr Gly Lys Asp Phe Gly Lys Lys Trp Ala Asn Asp
290 295 300

Leu Tyr Gln Asn Thr Tyr Glu Pro Gly Ser Thr Phe Lys Ser Tyr Gly
305 310 315 320

0925637.081001

09925637-081001

Leu Ala Ala Ala Ile Gln Glu Gly Ala Phe Asp Pro Asp Lys Lys Tyr
325 330 335

Lys Ser Gly His Arg Asp Ile Met Gly Ser Arg Ile Ser Asp Trp Asn
340 345 350

Arg Val Gly Trp Gly Glu Ile Pro Met Ser Leu Gly Phe Thr Tyr Ser
355 360 365

Ser Asn Thr Leu Met Met His Leu Gln Asp Leu Val Gly Ala Asp Lys
370 375 380

Met Lys Ser Trp Tyr Glu Arg Phe Gly Phe Gly Lys Ser Thr Lys Gly
385 390 395 400

Met Phe Asp Gly Glu Ala Pro Gly Gln Ile Gly Trp Ser Asn Glu Leu
405 410 415

Gln Gln Lys Thr Ser Ser Phe Gly Gln Ser Thr Thr Val Thr Pro Val
420 425 430

Gln Met Leu Gln Ala Gln Ser Ala Phe Phe Asn Asp Gly Asn Met Leu
435 440 445

Lys Pro Trp Phe Val Asn Ser Val Glu Asn Pro Val Ser Lys Arg Gln
450 455 460

Phe Tyr Lys Gly Gln Lys Gln Ile Ala Gly Lys Pro Ile Thr Lys Asp
465 470 475 480

Thr Ala Glu Lys Val Glu Lys Gln Leu Asp Leu Val Val Asn Ser Lys
485 490 495

Lys Ser His Ala Ala Asn Tyr Arg Ile Asp Gly Tyr Glu Val Glu Gly
500 505 510

Lys Thr Gly Thr Ala Gln Val Ala Ala Pro Asn Gly Gly Gly Tyr Val
515 520 525

Lys Gly Pro Asn Pro Tyr Phe Val Ser Phe Met Gly Asp Ala Pro Lys
530 535 540

Lys Asn Pro Lys Val Ile Val Tyr Ala Gly Met Ser Leu Ala Gln Lys
545 550 555 560

Asn Asp Gln Glu Ala Tyr Glu Leu Gly Val Ser Lys Ala Phe Lys Pro
565 570 575

Ile Met Glu Asn Thr Leu Lys Tyr Leu Asn Val Gly Lys Ser Lys Asp
580 585 590

Asp Thr Ser Asn Ala Glu Tyr Ser Lys Val Pro Asp Val Glu Gly Gln
595 600 605

Asp Lys Gln Lys Ala Ile Asp Asn Val Ser Ala Lys Ser Leu Glu Pro
610 615 620

Val Thr Ile Gly Ser Gly Thr Gln Ile Lys Ala Gln Ser Ile Lys Ala
625 630 635 640

Gly Asn Lys Val Leu Pro His Ser Lys Val Leu Leu Leu Thr Asp Gly
645 650 655

Asp Leu Thr Met Pro Asp Met Ser Gly Trp Thr Lys Glu Asp Val Ile
660 665 670

Ala Phe Glu Asn Leu Thr Asn Ile Lys Val Asn Leu Lys Gly Ser Gly
675 680 685

Phe Val Ser His Gln Ser Ile Ser Lys Gly Gln Lys Leu Thr Glu Lys
690 695 700

Asp Lys Ile Asp Val Glu Phe Ser Ser Glu Asn Val Asp Ser Asn Ser
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Thr Asn Asn Ser Asp Ser Asn Ser Asp Asp Lys Lys Lys Ser Asp Ser
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Lys Thr Asp Lys Asp Lys Ser Asp
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<212> PRT

<213> Homo sapiens

<400> 74

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Asn Thr Val Gln Ser Leu Glu Ser Met Gly Phe Lys Glu Pro Thr Pro
35 40 45

Ile Gln Lys Asp Ser Ile Pro Tyr Ala Leu Gln Gly Ile Asp Ile Leu
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Gly Gln Ala Gln Thr Gly Thr Gly Lys Thr Gly Ala Phe Gly Ile Pro
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Leu Ile Glu Lys Val Val Gly Lys Gln Gly Val Gln Ser Leu Ile Leu
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Ala Pro Thr Arg Glu Leu Ala Met Gln Val Ala Glu Gln Leu Arg Glu
100 105 110

Phe Ser Arg Gly Gln Gly Val Gln Val Val Thr Val Phe Gly Gly Met
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Pro Ile Glu Arg Gln Ile Lys Ala Leu Lys Lys Gly Pro Gln Ile Val
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Val Gly Thr Pro Gly Arg Val Ile Asp His Leu Asn Arg Arg Thr Leu
145 150 155 160

Lys Thr Asp Gly Ile His Thr Leu Ile Leu Asp Glu Ala Asp Glu Met
165 170 175

Met Asn Met Gly Phe Ile Asp Asp Met Arg Phe Ile Met Asp Lys Ile
180 185 190

Pro Ala Val Gln Arg Gln Thr Met Leu Phe Ser Ala Thr Met Pro Lys
195 200 205

Ala Ile Gln Ala Leu Val Gln Gln Phe Met Lys Ser Pro Lys Ile Ile
210 215 220

Lys Thr Met Asn Asn Glu Met Ser Asp Pro Gln Ile Glu Glu Phe Tyr
225 230 235 240

Thr Ile Val Lys Glu Leu Glu Lys Phe Asp Thr Phe Thr Asn Phe Leu
245 250 255

Asp Val His Gln Pro Glu Leu Ala Ile Val Phe Gly Arg Thr Lys Arg
260 265 270

Arg Val Asp Glu Leu Thr Ser Ala Leu Ile Ser Lys Gly Tyr Lys Ala
275 280 285

Glu Gly Leu His Gly Asp Ile Thr Gln Ala Lys Arg Leu Glu Val Leu
290 295 300

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				485					490					495	
Lys	Lys	Lys	Ser	Thr	Lys	Lys	Phe	Asp	Arg	Lys	Glu	Lys	Ser	Ser	Gly
			500					505					510		
Gly	Ser	Arg	Pro	Met	Lys	Gly	Arg	Thr	Phe	Ala	Asp	His	Gln		
		515					520					525			